



**MAZENOD
COLLEGE**



Year 11-12 Senior School Curriculum Handbook **2020**

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Introduction

The Final Years of the Mazenod Journey

Years 11 and 12 aren't crucial simply because they represent the final years of the Mazenod Journey. They are crucial because it is in these years that the character and the values of our students really begin to mature.

It might be easy to consider these years solely in terms of the key events of Year 12: the Ball, Farewell Assembly, Valedictory Dinner, exams and final work experience. However, I urge all of our students to remain present in the current moment as much as they can. I ask this for two reasons: first, to ensure that you make the most out of every experience over these two years; second, to ensure that you get full reward for the hard work that will have gone into those final moments of your school life.

Furthermore, I hope that all of our students embrace the lifelong learning opportunities ahead of them. Year 12 is not an endpoint to learning; rather, it is one of many points along the way in a future where our students can expect to go through periods of significant change in their personal and in their working lives.

Alongside our curricular offerings, I urge you to support your son's continued engagement in the wide array of co-curricular learning opportunities at the College. These include sport, dance, Young Vinnies, debating, music, games clubs and much more. The full range of offerings can be found in the [Co-Curricular Booklet](#) on the College website.

As parents and adults, we can support boys' learning through staying active and engaged in what they are doing in their courses. Listening to draft presentations, helping quiz their knowledge in preparation for examinations, and showing interest in their current learning topics are just a few ways to support academic progress.

To conclude, I wish our students every success in these final two years of their Mazenod Journey. I hope that they take advantage of every opportunity before them and transition into life as Old Boys of the College, making a real difference in the world.



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Key Dates

Year 11

| | | | |
|---------------------------------|--|---------------------------------|--|
| MAR 4 WED | Round 1 OLNA Writing | JUL 21 TUES | Student-Parent-Teacher Consultations |
| MAR 9 MON | Round 1 OLNA Reading | SEPT 1 TUES | Round 2 OLNA Writing |
| MAR 11 WED | Round 1 OLNA Numeracy | SEPT 7 MON | Round 2 OLNA Writing |
| MAR 13 FRI | Last date for subject changes | SEPT 9 WED | Round 2 OLNA Numeracy |
| APR 28 TUES | Student-Parent-Teacher Consultations | NOV 16 MON | – NOV 27 FRI Semester Two Exams and Work Experience |
| JUN 2 TUES | – JUN 12 FRI Semester One Exams and Work Experience | | |

Year 12

| | | | |
|---------------------------------|--|---------------------------------|---|
| MAR 4 WED | Round 1 OLNA Writing | JUL 21 TUES | Student-Parent-Teacher Consultations |
| MAR 9 MON | Round 1 OLNA Reading | SEPT 1 TUES | Round 2 OLNA Writing |
| MAR 11 WED | Round 1 OLNA Numeracy | SEPT 7 MON | Round 2 OLNA Writing |
| MAR 20 FRI | Last date for subject changes | SEPT 9 WED | Round 2 OLNA Numeracy |
| APR 28 TUES | Student-Parent-Teacher Consultations | OCT 1 THURS | – OCT 9 FRI Semester Two Exams |
| JUN 2 TUES | – JUN 12 FRI Semester One Exams and Work Experience | OCT 12 MON | |
| | | | OCT 22 THURS |

The Senior Curriculum

The Senior Curriculum is shaped for students to achieve a WACE and for students to have pathways into university, TAFE or employment. There are three types of courses: ATAR courses, General courses and VET courses.

ATAR Courses

ATAR courses are designed and examined by the School Curriculum and Standards Authority (SCSA). Student results in ATAR courses are used by the Tertiary Institutions Service Centre (TISC) to calculate a student's Australian Tertiary Admissions Ranking (ATAR). The ATAR is used to determine eligibility for university entrance. Students seeking to achieve an ATAR will need to complete a minimum of four Year 12 ATAR courses.

General Courses

General courses are designed by the School Curriculum and Standards Authority. These courses are not examined by the Authority. They are designed for students who are typically aiming to enter further training or the workforce directly from school.

Vocational Education & Training Courses

These courses are designed in close consultation with WA Industry Training Councils. These VETIS courses include a full, nationally recognised AQF qualification and mandatory industry-related workplace learning. Mazenod offers 5 VET courses as outlined on page 11 of this information booklet.

The **complexity and demand** of the content and context varies between the types of courses. The less demanding units in General courses will provide opportunities for access to content in more flexible ways, possibly through a wider range of contexts using more practical learning experiences.

Students seeking **tertiary entrance** will be enrolled in Wunits from ATAR courses for which the scope of the content is complex and rigorous, providing the foundation required for university entrance. ATAR courses have a school-based exam component as part of the assessment schedule. These exams must be completed in order to achieve a grade in any given course.

Students enrolled in ATAR courses must also sit the WACE exam. WACE external exams are conducted by the School Curriculum and Standards Authority (SCSA) on behalf of TISC for the purpose of ranking students for university entry. Students wishing to enter university directly from Year 12 have their best 4 results combined to achieve an ATAR.

It is compulsory for all Year 12 students enrolled in ATAR Courses to sit the relevant WACE external exam even if they do not intend applying for university. They must make a genuine attempt in the exam for the purpose of gaining credit for Secondary Graduation. Students who do not make a genuine attempt or fail to sit the exam will not have their school based grade counted towards the "achievement" or "breadth and depth" criteria required for Secondary Graduation.

Practical and performance examinations will be held for some courses such as Physical Education Studies and Drama.

There are **no WACE external examinations** for students who are enrolled in General courses.

The WACE

The Western Australian Certificate of Education (WACE) is awarded to senior secondary school students who satisfy the requirements below.

This qualification is recognised nationally by universities and other tertiary institutions, industry and training providers. Students complete these requirements in their final two years of senior secondary school.

Students are expected to achieve both breadth and depth in their study by selecting a range of courses to cater for their interests. They are expected to reach specified achievement standards, and to achieve literacy and numeracy competence.

General requirements

- demonstrate a minimum standard of literacy and a minimum standard of numeracy based on the skills regarded as essential for individuals to meet the demands of everyday life and work in a knowledge-based economy
- complete a minimum of 20 units (10 courses) or equivalents
- complete four or more Year 12 ATAR courses (including the WACE exam) or complete a Certificate II or higher or complete 5 General courses in Year 12.

Breadth and depth

Students must complete a minimum of 20 course units (10 courses) or the equivalent. This requirement must include at least:

- a minimum of 10 Year 12 units or the equivalent¹
- two completed Year 11 English units and one pair of completed Year 12 English units
- one pair of Year 12 course units from each of List A (arts/ English /languages/ social sciences) and List B (mathematics/ science/ technology).

Students may obtain unit equivalence as follows:

- up to eight units equivalence through a combination of VET and Workplace Learning.
- Certificate II is equivalent to two Year 11 and two Year 12 units.
- Workplace Learning – may accrue a maximum of two Year 11 units and two Year 12 units.

Literacy & Numeracy Requirements

Students must demonstrate that they have met the minimum standard for literacy and numeracy, which is based on skills regarded as essential for individuals to meet the demands of everyday life and work in a knowledge-based economy.

You can demonstrate the minimum standard:

- if you achieve Band 8 or higher in the Year 9 NAPLAN Reading, Writing and Numeracy tests,
- or**
- through meeting the benchmark on the Online Literacy and Numeracy Assessment (OLNA).

The OLNA is compulsory for students who have not prequalified in one or more of the components through Year 9 NAPLAN and want to achieve the WACE. Students have up to six opportunities between Year 10 and Year 12 to demonstrate the literacy and numeracy standard.

With respect to achieving the literacy requirement, students are required to complete two Year 11 English units and a pair of Year 12 English units in addition to meeting the OLNA benchmark.

¹Unit equivalence can be obtained through VET programs and/or endorsed programs such as Workplace Learning.

ATAR Information

The Australian Tertiary Admissions Rank (ATAR) can be confusing for many students. This summary will help answer some of your questions.

What is ATAR?

An ATAR ranges from 99.95 to 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.

If you have an ATAR of 70.00, for example, it indicates that you've achieved as well as or better than 70% of the Year 12 school leaver age population in the state.

The ATAR allows the results of any WA student applying for university admission interstate to be directly compared with results in other states. All states (except Queensland) report student rankings as an ATAR.

Tertiary Entrance Aggregate

Your TEA (Tertiary Entrance Aggregate) is the sum of your best four scaled scores plus 10% of your best Language Other Than English (LOTE) scaled score (if you have one), plus 10% of your scaled score (if you have one) Mathematics: Methods ATAR plus 10% of your scaled score (if you have one) Mathematics: Specialist ATAR based on the following rules:

- You can accumulate the scaled scores which contribute to your TEA over five consecutive years, but you can only count any subject or course once. If you repeat a course, we use your best score in that course.
- There are some unacceptable course combinations (check the admission requirements for your year). For these combinations, scores in both courses/subjects cannot both be used. Your best score from the combination is then used.
- If you have a scaled score in Mathematics Methods ATAR and/or Mathematics Specialist ATAR, 10% of your scaled score/s in these subjects will be added to your Tertiary Entrance Aggregate. You will receive this Mathematics bonus even if the course/s aren't in your best four.
- A 10% loading is also given for languages subjects, but these are not studied at ATAR level at Mazenod.

The maximum TEA is 430.

Your TEA will be calculated and then converted

to an ATAR, which tells you where you're ranked relative to other students.

Adjustment of Marks

The adjustment of marks only happens at the end of Year 12. The process is complicated and is designed to maximise fairness for students. Detailed explanations can be found from SCSA ([here](#)) and from TISC ([here](#)). Below is a simplified explanation of the key parts of the process.

Moderation: this is when your school mark is adjusted based on how you and your classmates performed in the exam. This process exists because different schools across might mark differently to each other. The one thing they all have in common is the ATAR examination at the end of the year. If you and your classmates perform better in the exam than in your school mark, your school mark will be adjusted upwards. Practical marks and written marks are moderated separately.

Standardised Combined Mark: this is the process where you moderated school marks are put together with your exam marks. At this point, your results are put in with the rest of the state and every course standardised their marks to a mean of close to 60 and a standard deviation of close to 14. It is these marks that then get scaled.

Scaling: some courses are harder than others and attract students who have higher academic abilities. So, these subjects are scaled up while others are scaled down.

What can you do?

You cannot control the adjustment process, but you can take advantage of it with your classmates by doing the following two things:

1

Get the highest mark you can by working with your classmates to maximise learning for everyone

2

Study, study, study to get a higher mark in the exam than in your school mark. Revision is ongoing rather than a cram.

Training & Further Education (TAFEWA)

Brief outline of the selection criteria

The arrangements to operate after February 2007 are the outcomes of a review of the existing entrance requirements and selection criteria, and are designed to:

- streamline the application process for full-time places in TAFE qualifications
- enhance the provision of course advice provided for new and ongoing students seeking full time places in TAFE qualifications
- ensure that selection processes are equitable, consistent across the TAFE network and operate on a merit basis
- ensure that selection processes are consistent with the government's objectives of promoting participation in training, pathways and lifelong learning.

Entry requirements

Under the new arrangements the entry requirements for all TAFE qualifications will be expressed as competencies or competency based qualifications. A set of generic competency statements has been identified for use in describing the entry requirements for TAFE qualifications. These describe competency in writing, reading, numeracy and oral communication.

Selection criteria

Selection criteria will be applied only to a limited number of competitive TAFE qualifications.

School leavers applying for TAFE qualifications for which there are entry requirements and selection criteria must provide evidence that addresses

both of these to compile a merit score. There will be a common set of selection criteria applied to all qualifications, which include:

Qualification pathways

Points will be awarded if applicants can show evidence of having established a qualification pathway. This requires the applicant to show evidence of engagement in a planned sequence of vocational education and training in a school, RTO, community or workplace setting that is linked to their future career. For example, a student may have undertaken a VET version of a new course as a precursor to seeking a place in a TAFE qualification.

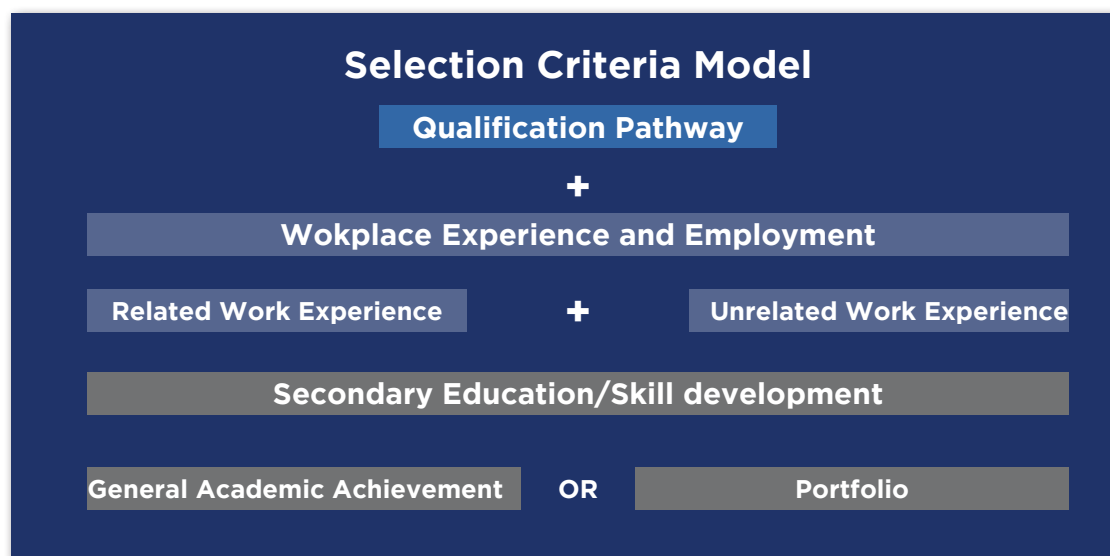
Workplace experience/employment

Points will be awarded if applicants can provide evidence of participation in work. This includes work experience in school and VET programs, general work experience including voluntary work, paid employment or meaningful engagement in community activities.

Secondary education/skill development

For most school leavers, points in this category will be determined by the student's academic results at secondary school. TAFE Admissions will allocate a point score based on these results.

To avoid the need to require school leavers to make subject choices that may not suit their ability or interest, the new selection paradigm will not award points for 'preferred subjects', and wherever possible will not stipulate specific subject requirements in the selection criteria and entry requirements.



University Entry



University Admission for Requirements for School Leavers

Summary of requirements for University Admission to Curtin University of Technology, Edith Cowan University, Murdoch University and The University of Western Australia.

To be considered for university admission as a school leaver an applicant normally must:

1. achieve the Western Australian Certificate of Education (**WACE**);
2. achieve **competence in English** as prescribed by the individual universities;
3. satisfy any **prerequisites** or special requirements for entry to particular courses; and,
4. obtain a **sufficiently high ATAR** for entry to a particular university and/or course.

Portfolio entry pathway for Edith Cowan University

In addition to the requirements outlined above, Edith Cowan University offers an additional pathway for entry by school leaver students. Students will need to satisfy ECU's competence in English, as outlined below, and achieve the minimum number of points determined from their school assessed results for their WACE courses. Applications will be partially assessed prior to release of final results and applicants may be required to attend an interview. Applicants seeking entry via the Portfolio Entry Pathway should apply through TISC, but submit their Portfolio directly to ECU. Detailed information about the requirements for the Portfolio Entry Pathway to ECU may be obtained from Student Recruitment on 134 328 or www.reachyourpotential.com.au.

Portfolio entry pathway for Murdoch University

In addition to the requirements outlined above, Murdoch University offers a portfolio pathway for admission to the Bachelor degrees in the Bachelor of Communications, Bachelor of Media and Bachelor of Digital Media. Students must satisfy Murdoch's English requirement and should apply through TISC but submit their Portfolio directly to the Prospective Students' and Admissions Centre at Murdoch University. Portfolios will be assessed by academic staff in the relevant discipline. For more information see www.murdoch.edu.au.

1 Western Australian Certificate of Education (WACE)

It is essential for you to satisfy the requirements of the WACE to enter all four universities. Students must:

- complete at least 20 course units;
- achieve a 'C' grade or better in 14 of these units including 6 in Year 12;
- complete 4 units in an English Course. 2 concurrent units must be studied in the final year of schooling;
- meet the Breadth of Study criteria;
- pass OLNA.

2 Competence in English

For university admission purposes, usually you demonstrate competence in English by achieving the prescribed standard in English or Literature. This is generally considered to be a final scaled mark of at least 50%.

CONCESSIONS

Curtin University of Technology

Edith Cowan University

Murdoch University

(a) If you have not met the requirement for one of these three universities, that university will concede competence in English to you if you have:

- achieved a standardised moderated numeric school assessment or standardised numeric examination assessment of at least 55% in ATAR English or Literature.

(b) If you have not met the requirement (a) above for one of the above three universities, but you have:

- achieved an ATAR above the minimum specified annually by the universities, and
- achieved a scaled mark less than 50 in ATAR English or Literature, then you may demonstrate your competence in English by sitting the Special Tertiary Admissions Test (STAT).

The University of Western Australia

(a) If you have not met the requirement for The University of Western Australia, you will be conceded competence in English to you if you have:

- achieved a standardised moderated numeric school assessment or standardised numeric examination assessment of at least 60% in ATAR English or Literature.

(b) If you have not met the requirement (a) above for The University of Western Australia, but you have:

- achieved an ATAR above the minimum specified annually by the universities, and
- achieved a scaled mark less than 50% in ATAR English or Literature, then you may demonstrate your competence in English by sitting the Special Tertiary Admissions Test (STAT).

3 The Australian Tertiary Admissions Rank (ATAR)

The Australian Tertiary Admission Rank is the basis of admission to most university courses. You are ranked in order of merit based on your ATAR. The ATAR ranges between zero and 99.95. It reports your rank relative to all other WA students of Year 12 school leaving age and takes into account the number of students with a Tertiary Entrance Aggregate (TEA) as well as the number of people of Year 12 school leaving age in the population of this state. An ATAR of 75.00 indicates that you have an overall rating equal to or better than 75% of the Year 12 school leaving age population in Western Australia. The ATAR is calculated using scaled marks in courses.

CALCULATION OF THE TERTIARY ENTRANCE AGGREGATE

The ATAR is derived from the Tertiary Entrance Aggregate (TEA). The TEA will be calculated by adding the best four scaled scores. In calculating the scaled score, equal weight is given to the final school score and the final examination score, except where courses/subjects are taken on a private basis. There are unacceptable course combinations whereby scores in both courses/subjects cannot both be used such as Biology and Human Biology. For all universities you may accumulate scaled scores which contribute to your ATAR over five consecutive years.

4 Prerequisites

Make sure that you satisfy the prerequisites for admission to the university course of your choice. Prerequisites are courses or special requirements that must be successfully completed for entry to particular university courses. Generally a scaled mark of 50% or more in a Year 12 ATAR course is required for prerequisites purposes; however, mathematics prerequisites differ across university courses. See individual university course entries which follow for details. Note that where a prerequisite is listed as at least Mathematics Applications, Mathematics Methods will also be accepted.

Entry to Notre Dame University



THE UNIVERSITY OF
NOTRE DAME
A U S T R A L I A

The University of Notre Dame Australia is a small, private Catholic University based in the West End of Fremantle committed to ensuring that students receive a personalised, high quality education. It offers a caring and friendly learning environment, providing courses that are challenging, relevant and responsive to student, employer and community needs. The University has two campuses, one in the historic port city of Fremantle and the other in Broome.

The Fremantle campus now has over 3,800 students enrolled in a range of undergraduate and postgraduate courses in Arts, Law, Education, Science & Technology, Health, Business and Theology. Although it is a private University, some courses attract Government funding in the form of Commonwealth Supported places and most other course fees are HECS equivalent.

Notre Dame selects students on the basis of a broad range of information provided by the

student, the student's school and others in a position to provide supporting evidence.

The process is designed to ensure that the university selects students who demonstrate:

- adequate ability, preparation and potential to succeed in university studies
- the motivation to complete such a course
- personal qualities that will enhance the university community.

When applying to Notre Dame, students need to provide a completed application form, results of Year 11 and Semester 1 Year 12 studies, a personal reference and a completed Notre Dame school reference form. The school will provide a professional judgement of the student's ability, performance and potential, as well as comments on more general attributes exhibited by the student in the school environment.

An interview with university staff generally occurs as well. In most instances, students will have successfully undertaken a tertiary entrance course, although the university does not insist on particular subject combinations. It seeks evidence only, that a student has an appropriately rigorous academic preparation for university

Refer to <http://www.nd.edu.au> for further details.



Links

School Curriculum & Standards Authority (SCSA)

For information regarding the WACE and post-schooling requirements:

scsa.wa.edu.au/

Tertiary Institutions Service Centre (TISC)

For university requirements:

www.tisc.edu.au

TAFE in Australia

TAFE in Australia contains information regarding careers, courses and admissions into all TAFE centres across metropolitan and country TAFE

www.tafecourses.com.au/

Universities

The Curtin University, Edith Cowan University, Murdoch University, Notre Dame University and University of WA websites provide information on all courses available, the different schools and scholarships for prospective students

www.curtin.edu.au

www.ecu.edu.au

www.murdoch.edu.au

www.uwa.edu.au

Career Quiz

Career Quiz is a fast online assistance tool, helping to inform about career interest areas and providing links to local career information services. Completing this checklist helps find types of work you like most, and will only take a few minutes to complete.

www.joboutlook.gov.au/careerquiz

Exploring Industries

Searching for Specific Information on Occupations and Careers? Find out about job prospects, weekly earnings, type of work and other useful occupational information.

www.joboutlook.gov.au/industry

Choosing a Career

Learn what you need to know about choosing a career, which suits you, by reading information about careers, completing activities that help you to understand more about yourself and help you find careers that suit your personality and abilities. (To use this site read the information as you scroll down the page and move on to following pages)

www.careersonline.com.au/job-seekers-workshop/choosing-a-career

My Future

My future is a website that once you join (for free) assists you explore your career direction and plan your future. It presents activities and articles as the set of steps in a maze. You can click on these steps or use the menu to move around My Guide and develop your career pathway plan

www.myfuture.edu.au/

Jobs and Skills WA

A website designed to help you gain an understanding of yourself and the career planning process.

www.jobsandskills.wa.gov.au

Australian Defence Force

The Australian Defence Force Career Explorer website contains detailed information on all employment categories in the Navy, Army and Air Force, including information for overseas applications. Go to the personalised job finder link.

www.defencejobs.gov.au

Religious Education

Religion & Life General

The Religion and Life General course provides students with opportunities to learn about religion and to explore the relationship between religion, society and individuals. Using a range of inquiry skills students develop an understanding of ways in which people discover, understand and express their religious beliefs. They also use these skills to explore one or more religions in detail, to analyse the role religion plays in human affairs and to explore issues of concern to religion.

Religion & Life General

Year 11

Unit 1

The focus of this unit is religion as a human activity. It explores how people search for meaning in life and the characteristics of religion. Students conduct research and develop the skills required for processing information and communicating findings about religion and life.

Religion & Life General

Year 11

Unit 2

The focus of this unit is the role religion plays in society. It considers the responses offered by religion to issues that exist in society. Students conduct research and develop the skills required for processing information and communicating findings about religion and life.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Investigation | 30-40% |
| Explanation | 30-40% |
| Source Analysis | 30-40% |

Religion & Life General

Year 12

Unit 3

The focus of this unit is the role religion plays in the lives of people. It explores how people interact with and respond to religion. Students consolidate the skills required for conducting an inquiry, processing information and communicating findings about religion and life.

Religion & Life General

Year 12

Unit 4

The focus of this unit is religious identity. It examines in more detail the influence of religion on people and how religious people interact with society. Students conduct research and consolidate the skills required for processing information and communicating findings about religion and life.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|---------------------|-----------|
| Investigation | 25% |
| Explanation | 40% |
| Source Analysis | 30% |
| Externally Set Task | 15% |

Religion & Life ATAR

The Religion and Life ATAR course provides students with opportunities to explore how and why individuals and communities relate to and understand religion. Students use a range of inquiry skills to explore at least one religious worldview and to investigate characteristics of religion, their origins, foundations, cultural influences and development over time. They also use these skills to analyse the role religion plays in society and to consider the challenges and opportunities religions face in the future.

Religion & Life ATAR

Year 11

Unit 1

The focus of this unit is the place of religion in society. It examines the responses of people to religion, in particular how people understand the response of religion to their concerns, needs and questions. Students develop the skills required for conducting an inquiry, processing information, and communicating findings about the interplay between religion and life.

Religion & Life ATAR

Year 11

Unit 2

The focus of this unit is religious identity and purpose. It investigates how religion shapes, forms and supports people in life. The unit also examines how religion impacts on and interacts with, groups in society. Students develop the skills required for conducting an inquiry, processing information, and communicating findings about the interplay between religion and life.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Investigation | 25% |
| Explanation | 20% |
| Source Analysis | 25% |
| Examination | 30% |

Religion & Life ATAR

Year 12

Unit 3

The focus for this unit is the connection between past and present experiences of religion. Students analyse the impact of changes within society and how these changes shape the way individuals and groups interact with religion. They further develop research skills for conducting an inquiry, processing information and, communicating findings about the interplay between religion and life.

Religion & Life ATAR

Year 12

Unit 4

The focus for this unit is the interplay between religion and life. Students explore how religion responds to, and interacts with, issues that arise within society. They further develop research skills for conducting an inquiry, processing information, and communicating findings about the interplay between religion and life.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Investigation | 25% |
| Explanation | 20% |
| Source Analysis | 25% |
| Examination | 30% |

Arts

Drama General

The Drama General course focuses on drama in practice and aesthetic understanding as students integrate their knowledge and skills. They engage in drama processes such as improvisation, play building, text interpretation, playwriting and dramaturgy. This allows them to create original drama and interpret a range of texts written or devised by others by adapting the theoretical approaches of drama practitioners like Stanislavski and Brecht. Students' work in this course includes production and design aspects involving directing, scenography, costumes, props, promotional materials, and sound and lighting. Increasingly, students use new technologies, such as digital sound and multimedia. They present drama to make meaning for a range of audiences and adapt their drama to suit different performance settings. The focus in this course is primarily on ensemble performance and team work.

Drama General
Year 11

Unit 1: Dramatic storytelling

The focus of this unit is dramatic storytelling. Students engage with the skills, techniques, processes and conventions of dramatic storytelling. Students view, read and explore relevant drama works and texts using scripts and/or script excerpts from Australian and/or world sources.

Drama General
Year 11

Unit 2: Drama performance events

The focus for this unit is drama performance events for an audience other than their class members. In participating in a drama performance event, students work independently and in teams. They apply the creative process of devising and of interpreting Australian and/or world sources to produce drama that is collaborative and makes meaning.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|------------------------|-----------|
| Performance/Production | 70% |
| Response | 30% |

Drama General
Year 12

Unit 3: Representational, realist drama

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.

Drama General
Year 12

Unit 4: Presentational, non-realist drama

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.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|------------------------|-----------|
| Performance/Production | 55% |
| Response | 30% |
| Externally Set Task | 15% |

Drama ATAR

The Drama ATAR course focuses on drama in practice and aesthetic understanding as students integrate their knowledge and skills. They engage in drama processes such as improvisation, play building, text interpretation, playwriting and dramaturgy. This allows them to create original drama and interpret a range of texts written or devised by others by adapting the theoretical approaches of drama practitioners like Stanislavski and Brecht. Students' work in this course includes production and design aspects involving directing, scenography, costumes, props, promotional materials, and sound and lighting. Increasingly, students use new technologies, such as digital sound and multimedia. They present drama to make meaning for a range of audiences and adapt their drama to suit different performance settings. The focus in this course is on both individual and ensemble performance, as well as the roles of actor, director, scenographer, lighting designer, sound designer, costume designer and dramaturge.

Drama ATAR

Year 11

Unit 1: Representational, realist drama

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.

Drama ATAR

Year 11

Unit 2: Presentational, non-realist drama

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.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|------------------------|-----------|
| Performance/Production | 40% |
| Response | 40% |
| Written Examination | 10% |
| Practical Examination | 10% |

Drama ATAR

Year 12

Unit 3: Reinterpretation of drama for contemporary audiences

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.

Drama ATAR

Year 12

Unit 4: Contemporary and devised drama

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.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|------------------------|-----------|
| Performance/Production | 30% |
| Response | 30% |
| Written Examination | 20% |
| Practical Examination | 20% |

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.

Music General

Year 11

Unit 1

In this unit, students develop their skills, knowledge and understanding to listen to, compose, perform and analyse music. They develop aural and music literacy skills and learn how the elements of music can be applied when performing, composing and responding to music. Students learn about how music is created and performed, analysing musical works and exploring how social, cultural and historical factors shape music in the specific context selected for study.

Music General

Year 11

Unit 2

In this unit, students develop their skills, knowledge and understanding to listen to, compose, perform and analyse music. They develop aural and music literacy skills and learn how the elements of music can be applied when performing, composing and responding to music. Students learn about how music is created and performed, analysing musical works and exploring how social, cultural and historical factors shape music in the specific context selected for study.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|------------------------------|-----------|
| Production/Practical Project | 40% |
| Aural and Theory | 20-25% |
| Composing and Arranging | 15-20% |
| Investigation and Analysis | 15-20% |

Music General

Year 12

Unit 3

In this unit, students develop their skills, knowledge and understanding to listen to, compose, perform and analyse music. They develop aural and music literacy skills and learn how the elements of music can be applied when performing, composing and responding to music. Students learn about how music is created and performed, analysing musical works and exploring how social, cultural and historical factors shape music in the specific context selected for study.

Music General

Year 12

Unit 4

In this unit, students develop their skills, knowledge and understanding to listen to, compose, perform and analyse music. They develop aural and music literacy skills and learn how the elements of music can be applied when performing, composing and responding to music. Students learn about how music is created and performed, analysing musical works and exploring how social, cultural and historical factors shape music in the specific context selected for study.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|------------------------------|-----------|
| Production/Practical Project | 40% |
| Aural and Theory | 16% |
| Composing and Arranging | 14% |
| Investigation and Analysis | 15% |
| Externally Set Task | 15% |

Visual Arts General

In the Visual Arts General course, students engage in traditional, modern and contemporary media and techniques within the broad areas of art forms. The course promotes innovative practice. Students are encouraged to explore and represent their ideas and gain an awareness of the role that artists and designers play in reflecting, challenging and shaping societal values. Students are encouraged to appreciate the work of other artists and engage in their own art practice.

Visual Arts General

Year 11

Unit 1: Experiences

The focus for this unit is experiences. 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 discover ways to compile and record their experiences through a range of art activities and projects that promote a fundamental understanding of visual language. They use experiences to develop appreciation of the visual arts in their everyday lives.

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.

Visual Arts General

Year 11

Unit 2: Explorations

The focus for this unit is explorations. 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.

In developing subject matter for artworks, students explore ways to express personal beliefs, opinions and feelings. They manipulate a variety of media and materials in a range of art forms, recording and reflecting on their artistic achievements.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Production | 70% |
| Analysis | 15% |
| Investigation | 15% |

Visual Arts ATAR

Year 12

Unit 3: Inspirations

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.

Consideration is given to the roles of artists in different societies, for example, hero, outsider, commentator and social critic. Students investigate the social functions of art, for example political and ideological expression, satire, social description or graphic communication. They address the relationship between form, function and meaning and develop understandings of how artists are influenced by pervasive ideas, events and circumstances, and how re-contextualisation contributes to meanings and messages in artwork.

Visual Arts ATAR

Year 12

Unit 4: Investigations

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.

Students use critical analysis frameworks to develop an understanding of the practice of art making and art interpretation. They research and analyse factors affecting points of view such as time, place, culture, religion and politics, synthesising this knowledge to express a

personal viewpoint or position. In the analysis of their own and others' artwork, students reflect on the relationship between artwork, audiences and contextual factors, and consider how these contribute to the development of different perspectives.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|--|-----------|
| Production 1) Body of work 2) Resolved artwork | 50% |
| Analysis | 17.5% |
| Investigation | 17.5% |
| Written Examination | 15% |

Visual Arts ATAR

In the Visual Arts ATAR course, students engage in traditional, modern and contemporary media and techniques within the broad areas of art forms. The course promotes innovative practice. Students are encouraged to explore and represent their ideas and gain an awareness of the role that artists and designers play in reflecting, challenging and shaping societal values. The Visual Arts ATAR course allows students to develop aesthetic understandings and a critical awareness to appreciate and make informed evaluations of art through their engagement of their own art practice and the work of others.

Visual Arts ATAR

Year 11

Unit 1: Differences

The focus for this unit is differences. Students may, for example, consider differences arising from cultural diversity, place, gender, class and historical period. Differences relating to art forms, media and conventions may also provide a stimulus for exploration and expression.

Students explore ways of collecting, compiling and recording information and documenting thinking and working practices. They explore approaches to drawing and develop awareness that each artist has his or her particular way of making marks to convey personal vision. Students examine how visual language and media choices contribute to the process of conveying function and meaning, and use a range of media and technologies to explore, create, and communicate ideas.

Students recognise that visual artwork is subject to different interpretations and appreciate that informed responses should take into account the varying contexts within which a work of art is created. They develop awareness of styles of representation, examining distinctly individualistic approaches of artists in different times and places.

Visual Arts ATAR

Year 11

Unit 2: Identities

The focus for this unit is identities. In working with this focus, students explore concepts or issues related to personal, social, cultural or gender identity. They become aware that self-expression distinguishes individuals as well as cultures. Students use a variety of stimulus materials and use a range of investigative approaches as starting points to create artwork. They develop a personal approach to the development of ideas and concepts, making informed choices about the materials, skills, techniques and processes used to resolve and present their artwork.

Students develop understandings of the personal and/or public functions of art in the expression of identity, for example, spiritual expression, psychological expression, therapy, ceremony and ritual, and the purposes of art, such as narrative – telling personal stories or exploring myths. They understand that art may give form to ideas and issues that concern the wider community.

Response to artwork stimulates insights, encourages deeper understandings, and challenges preconceived ideas. Students develop an awareness of how the visual arts may be both socially confirming and questioning, analyse their own cultural beliefs and values and develop deeper understandings of their own personal visual arts heritage.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Production | 50% |
| Analysis | 15% |
| Investigation | 15% |
| Examination | 20% |

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.

Consideration is given to the roles of artists in different societies, for example, hero, outsider, commentator and social critic. Students investigate the social functions of art, for example political and ideological expression, satire, social description or graphic communication. They address the relationship between form, function and meaning and develop understandings of how artists are influenced by pervasive ideas, events and circumstances, and how re-contextualisation contributes to meanings and messages in artwork.

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.

Students use critical analysis frameworks to develop an understanding of the practice of art making and art interpretation. They research and analyse factors affecting points of view such as time, place, culture, religion and politics, synthesising this knowledge to express a personal viewpoint or position. In the analysis of their own and others' artwork, students reflect on the relationship between artwork, audiences and contextual factors, and consider how these contribute to the development of different perspectives.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|---------------------|-----------|
| Production | 50% |
| 1) Body of work | |
| 2) Resolved artwork | |
| Analysis | 17.5% |
| Investigation | 17.5% |
| Written Examination | 15% |

Design & Technology

Design General

In the Design General course students develop skills and processes for current and future industry and employment markets. Students are equipped with the knowledge and skills to understand design principles and processes, analyse problems and devise innovative strategies through projects. Students are able to focus on particular contexts from a choice of photography, graphics, dimensional design and technical graphics. The Design General course also emphasises the scope of design in trade based industries allowing students to maximise vocational pathways.

Design General

Year 11

Unit 1: Design Fundamentals

The focus of this unit is to introduce design process and practice. Students learn that design can be used to provide solutions to design problems and communication needs. They are introduced to basic design skills and a range of techniques within a defined context to demonstrate control over the elements and principles of design.

Design General

Year 11

Unit 2: Personal Design

The focus of this unit is personal design. Students learn that they visually communicate aspects of their personality, values and beliefs through their affiliations and their manipulation of personal surroundings and environments. Students explore design elements and principles and the design process in a project communicating something of themselves. Students increase familiarity with basic production skills and processes, materials and technologies.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Production | 70% |
| Response | 30% |

Design General

Year 12

Unit 3: Product Design

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.

Design General

Year 12

Unit 4: Cultural Design

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.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|---------------------|-----------|
| Production | 65% |
| Response | 20% |
| Externally Set Task | 15% |

Design ATAR

In the Design ATAR course students develop skills and processes for current and future industry and employment markets. Students are equipped with the knowledge and skills to understand design principles and processes, analyse problems and possibilities, and devise innovative strategies within design contexts. These include photography, graphics, dimensional design and technical graphics. The Design ATAR course also emphasises the scope of design in professional industries allowing students to maximise university pathways.

Design ATAR is a new course in 2020 and will only be running as a Year 11 subject which will flow into Year 12 in 2021..

Design ATAR
Year 11

Unit 1: 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. They create products/services, visuals and/or layouts with an understanding of codes and conventions. They use relevant and appropriate production skills and processes, materials and technologies relevant to the design.

Design ATAR
Year 11

Unit 2: Cultural Design

Students learn that society is made up of different groups of people who share diverse values, attitudes, beliefs, behaviour 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 analyse communication situations and audience. They define and establish contemporary production skills and processes, materials and technologies.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Production | 50% |
| Response | 30% |
| Examination | 20% |

Design General
Year 12

Unit 3: Commercial Design

Students become aware that design has commercial considerations that are influenced by various stakeholders to produce products, services and brands. Commercial design is client and market driven and is a reflection of contemporary consumer demands. Students are introduced to a client-focused design brief to create a product or service. They plan, develop and analyse to create designs that reflect the client, audience, and market needs. They also consider commercial and manufacturing requirements for a real world solution, with relevant production skills and processes, materials, and technologies.

Design General
Year 12

Unit 4: Influential Design

The focus of this unit is the communication of ideals, messages, information and values, to influence opinion and attitudes. Students produce products and visual layouts for specific and applied contexts with an understanding of applied semiotics and the construction of meaning. They analyse the audience in terms of empathy, profiling and stereotyping, and develop persuasive solutions using a research, testing and feedback mechanism.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|------------------------|-----------|
| Production (portfolio) | 50% |
| Response | 20% |
| Written Examination | 30% |

Engineering Studies General

The Engineering Studies General course is essentially a practical course focusing on real-life contexts. Students apply a design process to research and present information about materials, engineering principles, concepts and ideas, and design proposals. Students develop their engineering technology skills in planning and implementing a process to manipulate tools and machines to produce a prototype of their designed solution

Engineering Studies General

Year 11

Unit 1

In this unit, students develop an understanding of the engineering design process. They study and interpret a given design brief, learn a range of research skills and devising methods to develop concepts, then plan and communicate proposed solutions to the given design brief. They study core engineering theory and relevant theory of their chosen specialist area, and learn to integrate and use this knowledge to develop and present proposals for practical solutions.

Students calculate requirements, prepare drawings and produce lists of materials and components and then follow a given timeline to produce, test and evaluate the finished product.

Engineering Studies General

Year 11

Unit 2

In this unit, students focus on the topics of automation and technical innovation. They investigate engineering examples within these themes and the impact these technologies have on society. Students study and interpret a given design brief. They develop responses to the brief through a process that requires students to engage in a range of activities including: researching similar existing engineered products; sketching, drawing and annotating concepts; and choosing the preferred concept for production as a prototype or working model. Students finalise their chosen design by documenting its specifications in the form of appropriate drawings and lists of materials and components. They follow a given timeline to undertake tasks required to produce, test and evaluate the product. Core and specialist area theory continues to be studied to develop greater understanding of the scientific, mathematical and technical concepts that explain how engineered products function.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Design | 20% |
| Production | 70% |
| Response | 10% |

Engineering Studies General

Year 12

Unit 3

In the development of an engineering project, students study core engineering theory and theory in their chosen specialist area. They develop an understanding of the different forms of energy, uses of these different forms and sources of renewable and non-renewable energy. In this unit, students also develop a greater understanding of the engineering design process and learn and apply more complex theory and understanding to a student developed design brief. Given guidelines and a context, students develop and respond to the design brief through a process that requires them to investigate existing products, construction materials and components. Design ideas are developed through annotated sketches and concept drawings. Students select and analyse the most suitable concept for production as a prototype or working model.

Students finalise their chosen design by documenting its specifications in the form of appropriate orthographic drawings and lists of materials and components. They calculate the cost of the prototype or model. They follow a given timeline to undertake tasks required to produce, test and evaluate the product.

Engineering Studies General

Year 12

Unit 4

In this unit, students develop their understanding of core and specialist area theory to better understand the scientific, mathematical and technical concepts that explain how engineered products function. They study the impact of the different forms of obsolescence in engineering products, on society, business and the environment.

Students refine their understanding of the engineering design process. Students develop a design brief, and respond to the brief, through a process that requires them to engage in a range of activities, and investigate construction constraints, materials and components. Design ideas are developed through annotated sketches and concept drawings. Students select and analyse the most suitable concept for production as a prototype or working model.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|---------------------|-----------|
| Design | 25% |
| Production | 50% |
| Response | 10% |
| Externally Set Task | 15% |

Materials Design & Technology (Wood) General

The Materials Design and Technology General course is a practical course. Students can choose to work with metal, textiles or wood, with the design and manufacture of products as the major focus. Students have the opportunity to develop and practise skills that contribute to creating a physical product, while acquiring an appreciation of the application of a design process, and an understanding of the need for materials sustainability. Students will learn and practise manufacturing processes and technologies, including principles of design, planning and management.

MDT (Wood) General

Year 11

Unit 1

Students interact with a variety of items that have been specifically designed to meet certain needs. Students are introduced to the fundamentals of design. They learn to communicate various aspects of the technology process by constructing what they design.

Throughout the process, students learn about the origins, classifications, properties and suitability for purpose of the materials they are using, and are introduced to a range of production equipment and techniques. They develop materials manipulation skills and production management strategies, and are given the opportunity to realise their design ideas through the production of their design project.

MDT (Wood) General

Year 11

Unit 2

Students interact with products designed for a specific market. They use a range of techniques to gather information about existing products and apply the fundamentals of design. Students learn to conceptualise and communicate their ideas and various aspects of the design process within the context of constructing what they design.

Throughout the process, students learn about the origins, classifications, properties and suitability for end use of materials they are working with. Students are introduced to a range of technology skills and are encouraged to generate ideas and realise them through the production of their design projects. They work within a defined environment and learn to use a variety of relevant technologies safely and effectively.

Students, in consultation with teachers, select projects of interest and then design and make products suitable for a specific market.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Design | 25% |
| Production | 60% |
| Response | 15% |

MDT (Wood) General

Year 12

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.

MDT (Wood) General

Year 12

Unit 4

Students learn about the nature of designing for a client, target audience or market. Students learn about the nature, properties and environmental impacts related to a variety of materials, and production techniques. Students apply an understanding of the elements and fundamentals of design and consider human factors involved in their design projects. 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.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|------------------------------|-----------|
| Design (practical portfolio) | 25% |
| Production (practical) | 50% |
| Response (written) | 10% |
| Externally Set Task | 15% |

Materials Design & Technology (Metal) General

The Materials Design and Technology General course is a practical course. Students can choose to work with metal, textiles or wood, with the design and manufacture of products as the major focus. Students have the opportunity to develop and practise skills that contribute to creating a physical product, while acquiring an appreciation of the application of a design process, and an understanding of the need for materials sustainability. Students will learn and practise manufacturing processes and technologies, including principles of design, planning and management.

MDT (Metal) General

Year 11

Unit 1

Students interact with a variety of items that have been specifically designed to meet certain needs. Students are introduced to the fundamentals of design. They learn to communicate various aspects of the technology process by constructing what they design.

Throughout the process, students learn about the origins, classifications, properties and suitability for purpose of the materials they are using, and are introduced to a range of production equipment and techniques. They develop materials manipulation skills and production management strategies, and are given the opportunity to realise their design ideas through the production of their design project.

MDT (Metal) General

Year 11

Unit 2

Students interact with products designed for a specific market. They use a range of techniques to gather information about existing products and apply the fundamentals of design. Students learn to conceptualise and communicate their ideas and various aspects of the design process within the context of constructing what they design.

Throughout the process, students learn about the origins, classifications, properties and suitability for end use of materials they are working with. Students are introduced to a range of technology skills and are encouraged to generate ideas and realise them through the production of their design projects. They work within a defined environment and learn to use a variety of relevant technologies safely and effectively.

Students, in consultation with teachers, select projects of interest and then design and make products suitable for a specific market.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Design | 25% |
| Production | 60% |
| Response | 15% |

MDT (Wood) General

Year 12

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.

MDT (Metal) General

Year 12

Unit 4

Students learn about the nature of designing for a client, target audience or market. Students learn about the nature, properties and environmental impacts related to a variety of materials, and production techniques. Students apply an understanding of the elements and fundamentals of design and consider human factors involved in their design projects. 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.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|------------------------------|-----------|
| Design (practical portfolio) | 25% |
| Production (practical) | 50% |
| Response (written) | 10% |
| Externally Set Task | 15% |

Certificate II (Engineering Pathways)

MEM20413

Course Overview

This qualification applies to a learning and assessment environment where access to structured on-the-job learning in a workplace may not be available.

This qualification will equip graduates with knowledge and skills which will enhance their prospects of employment in an engineering or related working environment.

Total number of units = 12

Units of Competency

Core Units

- MEM13014A Apply principles of Occupational Health and Safety in work environment
- MEMPE005A Develop a career plan for the engineering and manufacturing industry
- MEMPE006A Undertake a basic engineering project
- MSAENV272B Participate in environmentally sustainable work practices

Elective Units

- MEM16008A Interact with computing technology
- MEM18001C Use hand tools
- MEM18002B Use power tools/hand held operations
- MEMPE001A Use engineering workshop machines
- MEMPE002A Use electric welding machines
- MEMPE003A Use oxy-acetylene and soldering equipment
- MEMPE004A Use fabrication equipment
- MSAPSUP106A Work in a team

Certificate II (Furniture Making Pathways)

MSF20516

Course Overview

This qualification applies to a learning and assessment environment where access to structured on-the-job learning in a workplace may not be available.

The qualification is intended for people interested in exposure to a furniture making r related working environment with a view to entering into employment in that area.

Total number of units = 12

Units of Competency

Core Units

- MSMENV272 Participate in environmentally sustainable work practices
- MSMPCI103 Demonstrate care and apply safe practices at work
- MSFGN2001 Make measurements and calculations
- MSFFP2001 Undertake a basic furniture making project
- MSFFP2002 Develop a career plan for the furnishing industry

Elective Units

- MSFFM2001 Use furniture making sector hand and power tools
- MSFFM2002 Assemble furnishing components
- MSFFM2003 Select and apply hardware
- MSFFP2003 Prepare surfaces
- MSFFP2004 Apply domestic surface coatings
- MSFFP2006 Make simple timber joints
- MSMSUP106 Work in a team



Third Party Arrangement

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Further Information

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AIET Registration Training Organisation number: 121314

ABN: 74 884 427 288 www.aiet.edu.au

Digital Technologies

Computer Science ATAR

In the Computer Science ATAR Course students explore the fundamental principles, concepts and skills within the field of computing. They learn how to diagnose and solve problems in the course of understanding the building blocks of computing. Students explore the principles related to the analysis and creation of computer and information systems; software development; the connectivity between computers; the management of data; the development of database systems; and the moral and ethical considerations for the development and use of computer systems. This course provides students with the practical and technical skills that equip them to function effectively in a world where these attributes are vital for employability and daily life in a technological society.

Computer Science ATAR

Year 11

Unit 1

The focus for this unit is developing computer-based systems and producing spreadsheet and database solutions. Students are introduced to the internal, interrelating components of computer-based systems in an industry context. They examine a variety of systems, build on spreadsheet and database skills and gain an appreciation of how these concepts and technologies are used in industry.

Computer Science ATAR

Year 11

Unit 2

The focus for this unit is developing computer-based systems solutions and communications. Students are introduced to networking concepts, as applied to industry. Through the use of algorithms, students develop programming skills. They create solutions exploring the ethical, legal and societal implications of industry-based applications.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Project | 40% |
| Theory Test | 20% |
| Practical Test | 10% |
| Examination | 30% |

Computer Science ATAR

Year 12

Unit 3

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.

Computer Science ATAR

Year 12

Unit 4

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.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Project | 30% |
| Theory Test | 20% |
| Practical Test | 10% |
| Examination | 40% |

Certificate II (Information, Digital Media & Technology)

ICT20115

Course Overview

This entry level qualification provides the foundation skills and knowledge to use information and communications technology (ICT) in any industry.

Working in an IT tech support role is a versatile starting point for many tech careers.

Total number of units = 14

Units of Competency

Core Units

BSBWHS201 Contribute to health and safety of self and others

BSBSUS201 Participate in environmentally sustainable work practices

ICTICT201 Use computer operating systems and hardware

ICTICT202 Work and communicate effectively in an ICT environment

ICTICT203 Operate application software packages

ICTICT204 Operate a digital media technology package

ICTWEB201 Use social media tools for collaboration and engagement

Elective Units

ICTICT206 Install software applications

ICTICT209 Interact with ICT clients

ICTICT210 Operate database applications

ICTSAS203 Connect hardware peripherals

ICTSAS204 Record client support requirements

ICTSAS205 Maintain ICT system integrity

ICTSAS208

Maintain ICT equipment and consumables



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English

English General

The English General course focuses on consolidating and refining the skills and knowledge needed by students to become competent, confident and engaged users of English in everyday, community, social, further education, training and workplace contexts. The course is designed to provide students with the skills to succeed in a wide range of post-secondary pathways by developing their language, literacy and literary skills. Students comprehend, analyse, interpret, evaluate and create analytical, imaginative, interpretive and persuasive texts in a range of written, oral, multimodal and digital forms.

English General

Year 11

Unit 1

Unit 1 focuses on students comprehending and responding to the ideas and information presented in texts. Students:

- employ a variety of strategies to assist comprehension
- read, view and listen to texts to connect, interpret and visualise ideas
- learn how to respond personally and logically to texts by questioning, using inferential reasoning and determining the importance of content and structure
- consider how organisational features of texts help the audience to understand the text
- learn to interact with others in a range of contexts, including everyday, community, social, further education, training and workplace contexts
- communicate ideas and information clearly and correctly in a range of contexts
- apply their understanding of language through the creation of texts for different purposes.

English General

Year 11

Unit 2

Unit 2 focuses on interpreting ideas and arguments in a range of texts and contexts. Students:

- analyse text structures and language features and identify the ideas, arguments and values expressed
- consider the purposes and possible audiences of texts
- examine the connections between purpose and structure and how a text's meaning is influenced by the context in which it is created and received
- integrate relevant information and ideas from texts to develop their own interpretations
- learn to interact effectively in a range of contexts
- create texts using persuasive, visual and literary techniques to engage audiences in a range of modes and media.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Responding | 40-60% |
| Creating | 40-60% |

English General

Year 11

Unit 3

Unit 3 focuses on exploring different perspectives 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.

English General

Year 11

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.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|---------------------|-----------|
| Responding | 40% |
| Creating | 45% |
| Externally Set Task | 15% |

English ATAR

The English ATAR course focuses on developing students' analytical, creative, and critical thinking and communication skills in all language modes, encouraging students to critically engage with texts from their contemporary world, the past, and from Australian and other cultures. Through close study and wide reading, viewing and listening, students develop the ability to analyse and evaluate the purpose, stylistic qualities and conventions of texts and to enjoy creating imaginative, interpretive, persuasive and analytical responses in a range of written, oral, multimodal and digital forms.

English ATAR

Year 11

Unit 1

Students explore how meaning is communicated through the relationships between language, text, purpose, context and audience. This includes how language and texts are shaped by their purpose, the audiences for whom they are intended and the contexts in which they are created and received. Through responding to and creating texts, students consider how language, structure and conventions operate in a variety of imaginative, interpretive and persuasive texts. Study in this unit focuses on the similarities and differences between texts and how visual elements combine with spoken and written elements to create meaning. Students develop an understanding of stylistic features and apply skills of analysis and creativity. They are able to respond to texts in a variety of ways, creating their own texts and reflecting on their own learning.

English ATAR

Year 11

Unit 2

Students analyse the representation of ideas, attitudes and voices in texts to consider how texts represent the world and human experience. Analysis of how language and structural choices shape perspectives in and for a range of contexts is central to this unit. By responding to and creating texts in different modes and media, students consider the interplay of imaginative, interpretive and persuasive elements in a range of texts and present their own analyses. Students critically examine the effect of stylistic choices and the ways in which these choices position audiences for particular purposes, revealing and/or shaping attitudes, values and perspectives. Through the creation of their own texts, students are encouraged to reflect on their language choices and consider why they have represented ideas in particular ways.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Responding | 35-40% |
| Creating | 35-40% |
| Examination | 20-30% |

English ATAR

Year 12

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.

English ATAR

Year 12

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.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Responding | 35% |
| Creating | 35% |
| Examination | 30% |

Literature ATAR

In the Literature ATAR course, students learn to create readings of literary texts and to create their own texts, including essays, poems, short stories, plays and multimodal texts. Students engage with literary theory and study literary texts in great detail. Students learn to read texts in terms of their cultural, social and historical contexts; their values and attitudes; and their generic conventions and literary techniques. They enter the discourse about readings, reading practices and the possibility of multiple readings. Students learn to create texts paying attention to contexts, values and conventions. Students learn about literary language, narrative, image and the power of representation. Students experience the aesthetic and intellectual pleasure that reading and creating literary texts can bring.

Literature ATAR

Year 11

Unit 1

Unit 1 develops students' knowledge and understanding of different ways of reading and creating literary texts drawn from a widening range of historical, social, cultural and personal contexts. Students analyse the relationships between language, text, contexts, individual points of view and the reader's response. This unit develops knowledge and understanding of different literary conventions and storytelling traditions and their relationships with audiences. A range of literary forms is considered: prose fiction, poetry and drama. The significance of ideas and the distinctive qualities of texts are analysed through detailed textual study. Through the creation of analytical responses, students frame consistent arguments that are substantiated by relevant evidence. In the creation of imaginative texts, students explore and experiment with aspects of style and form.

Literature ATAR

Year 11

Unit 2

Unit 2 develops students' knowledge and understanding of intertextuality, the ways literary texts connect with each other. Drawing on a range of language and literary experiences, students consider the relationships between texts, genres, authors, readers, audiences and contexts. The ideas, language and structure of different texts are compared and contrasted. Exploring connections between texts involves analysing their similarities and differences through an analysis of the ideas, language used and forms of texts. Students create analytical responses that are evidence-based and convincing. By experimenting with text structures and language features, students understand how their imaginative texts are informed by analytical responses.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--|-----------|
| Extended Written Response | 10-20% |
| Short Written Response | 30-40% |
| Creative Production of a literary text | 10-20% |
| Oral | 10-20% |
| Examination | 20-30% |

Literature ATAR

Year 12

Unit 3

Unit 3 develops students' knowledge and understanding of the relationship between language, culture and identity in literary texts. Students inquire into the power of language to represent ideas, events and people, comparing these across a range of texts, contexts, modes and forms. Through critical analysis and evaluation, the values and attitudes represented in and through texts and their impact on the reader are examined. Throughout the unit, students create analytical responses that are characterised by a confident, engaging style and informed observation. In creating imaginative texts, students experiment with language, adapt forms, and challenge conventions and ideas.

Literature ATAR

Year 12

Unit 4

Unit 4 develops students' appreciation of the significance of literary study through close critical analysis of literary texts drawn from a range of forms, genres and styles. Students reflect upon the creative use of language, and the structural and stylistic features that shape meaning and influence response. The unit focuses on the dynamic nature of literary interpretation and considers the insights texts offer, their use of literary conventions and aesthetic appeal. Students' analytical responses demonstrate increasing independence in interpreting texts and synthesising a range of perspectives into critical and imaginative responses. In creating imaginative texts, students experiment with literary conventions and reflect on how the created text takes into account the expectations of audiences.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|--|-----------|
| Extended Written Response | 15% |
| Short Written Response | 35% |
| Creative Production of a literary text | 10% |
| Oral | 10% |
| Examination | 30% |

Health & Physical Education

Physical Education Studies General

Physical Education Studies contributes to the development of students' physical, social and emotional growth. The Physical Education Studies General course provides students with opportunities to understand and improve performance through the integration of theoretical concepts and practical activities. Through engagement as performers, leaders, coaches, analysts and planners of physical activity, students may develop skills that can be utilised in leisure, recreation, education, sport development, youth work, health and medical fields.

Physical Education Studies General
Year 11

Unit 1

The focus of this unit is the development of students' knowledge, understanding and application of anatomical, physiological and practical factors associated with performing in physical activities.

Physical Education Studies General
Year 11

Unit 2

The focus of this unit is the impact of physical activity on the body's anatomical and physiological systems. Students are introduced to these concepts which support them to improve their performance as team members and/or individuals.

Physical Education Studies ATAR

Physical Education Studies contributes to the development of students' physical, social and emotional growth. In the Physical Education Studies ATAR course students learn about physiological, psychological and biomechanical principles, and apply these to analyse and improve personal and group performances in physical activities. Throughout the course, students learn through integrated written, oral and active learning experiences. The course also provides students with opportunities to develop skills that will enable them to pursue personal interests and potential in physical activity as athletes, coaches, officials, administrators and/or volunteers.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|-------------------------|-----------|
| Practical (performance) | 50% |
| Investigation | 25% |
| Response | 25% |

Physical Education Studies General
Year 12

Unit 3

The focus of this unit is simple movement, biomechanical, physiological, psychological, functional anatomy and motor learning concepts. The understanding of the relationship between skill, movement production and fitness will be further enhanced as students develop and improve.

Physical Education Studies General
Year 12

Unit 4

The focus of this unit is for students to assess their own and others' movement competency and identify areas for improvement. They will build on their knowledge of training principles, nutrition and goal setting concepts to enhance their own and others' performance in physical activity.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|-------------------------|-----------|
| Practical (performance) | 50% |
| Investigation | 15% |
| Response | 20% |
| Externally Set Task | 15% |

Physical Education Studies ATAR
Year 11

Unit 1

The focus of this unit is to explore anatomical and biomechanical concepts, the body's responses to physical activity and stress management processes to improve their own performance and that of others in physical activity.

Physical Education Studies ATAR
Year 11

Unit 2

The focus of this unit is to identify the relationship between skill, strategy and the body in order to improve the effectiveness and efficiency of performance.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|-------------------------|-----------|
| Practical (performance) | 30% |
| Investigation | 15% |
| Response | 15% |
| Examination | 40% |

Physical Education Studies ATAR

Year 12

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.

Physical Education Studies ATAR

Year 12

Unit 4

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

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|-----------------------------------|-----------|
| Practical (performance) | 35% |
| Practical Performance Examination | 15% |
| Investigation | 10% |
| Response | 12.5% |
| Written Examination | 27.5% |

Outdoor Education General

Outdoor Education General is a one-semester program that leads into the Certificate II (Outdoor Recreation) course following the first semester examinations and work experience period.

Through interaction with the natural world, Outdoor Education aims to develop an understanding of our relationships with the environment, others and ourselves. The Outdoor Education General course focuses on outdoor activities in a range of environments, including bushwalking, sailing, climbing and orienteering. It provides students with an opportunity to develop essential life skills and physical activity skills, and an opportunity to develop a comprehensive understanding of the environment and develop a positive relationship with nature. The course also provides students with opportunities to develop skills that will enable them to pursue personal interests and careers in outdoor pursuits, environmental management, or eco-tourism.

Outdoor Education General

Year 11

Unit 1

Students are encouraged to engage in outdoor adventure activities. An experiential approach is used to discover what being active in the environment is all about. Students are introduced to outdoor adventure activities where they can develop and improve technical skills and apply appropriate practices to ensure safe participation. They understand basic planning and organisational requirements necessary for them to participate in safe, short duration excursions/expeditions in selected outdoor activities. They begin developing skills in roping and navigation. Students are introduced to personal skills and interpersonal skills, including self-awareness, communication and leadership. Features of natural environments and examples of local environmental management and 'Leave No Trace' principles are introduced.

Assessment (Unit 1)

| Type of Assessment | Weighting |
|---|-----------|
| Investigation | 25% |
| Performance 1: specific to outdoor adventure activity skills and strategies | 30% |
| Performance 2: specific to expedition | 20% |
| Response | 25% |

Certificate II (Outdoor Recreation)

SIS20419

Course Overview

This qualification provides the skills and knowledge for an individual to be competent in performing core skills in outdoor recreation environments and assisting with the conduct of a range of outdoor activities.

Work would be undertaken in field locations such as camps or in indoor recreation centres or facilities, in differing environments such as water-based, dry land and mountainous terrains, using a diverse range of equipment.

Total number of units = 11

Units of Competency

Core Units

- HLTWHS001 Participate in workplace health and safety
- SISOFLD001 Assist in conducting recreation sessions
- SISOFLD002 Minimise environmental impact
- SISXIND002 Maintain sport, fitness and recreation industry knowledge

Elective Units (Select 7 - include 3 Activity Units)

Activity Units

- SISCAQU002 Perform basic water rescues
- SISOABS001 Abseil single pitches using fundamental skills
- SISOBWG001 Bushwalk in tracked environments
- SISOCNE001 Paddle a craft using fundamental skills
- SISOCYT001 Set up, maintain and repair bicycles
- SISOCYT002 Ride bicycles on roads and pathways, easy conditions
- SISOCYT004 Ride off road bicycles on easy trails
- SISOEQU001 Handle horses
- SISOEQU002 Ride horses using fundamental skills
- SISOFLD006 Navigate in tracked environments
- SISOSKT001 Ski on easy cross country terrain
- SISOSNK001 Snorkel
- SISOSRF001 Surf small waves using basic manoeuvres
- SISOSUP001 Paddle a stand up board on inland flatwater

General

- HLTAID003 Provide first aid
- SIXEMR001 Respond to emergency situations
- SIXCAI001 Provide equipment for activities
- SIXFAC001 Maintain equipment for activities
- SIXFAC002 Maintain sport, fitness and recreation facilities



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Humanities & Social Sciences

Economics ATAR

Economics explores the choices which all people, groups and societies face as they confront the ongoing problem of satisfying their unlimited wants with limited resources. The Economics ATAR course aims to develop a' ability to analyse the allocation, utilisation and distribution of scarce resources that determine our wealth and wellbeing. The study of Economics provides a framework for examining society's issues and identifying possible solutions which assist decision making. The emphasis of the course is on the Australian economy.

Economics ATAR

Year 11

Unit 1: Microeconomics

This unit explores the theory that markets are an efficient way to allocate scarce resources, using real world markets with an emphasis on the Australian economy. When the forces of demand and supply do not allocate and price resources in a way that society would regard as efficient, equitable or sustainable, market failure can occur. Students examine examples of market failure along with a range of government policy options that can be applied to achieve more desirable outcomes. Students are also introduced to the language of economics and the use of theories and models to explain and interpret economic events and issues.

Economics ATAR

Year 11

Unit 2: Macroeconomics

This unit explores the government's role in a modified market economy and Australia's recent (the last ten years) and contemporary (the last three years) macroeconomic performance. The cyclical fluctuations in the level of economic activity result in changes in the levels of output, income, spending and employment in the economy which, in turn, have implications for economic growth, inflation and unemployment. Students examine the role of government, through its spending and taxing powers, which can affect the allocation and price of resources, and the level of economic activity by targeting economic objectives.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|----------------------------------|-----------|
| Data interpretation/Short answer | 30% |
| Extended answer | 40% |
| Examination | 30% |

Economics ATAR

Year 12

Unit 3: Australia and the global economy

The unit explores the linkages between economies and the concepts of globalisation, trade liberalisation and protection in relation to the Australian economy. Students examine Australia's trade, the recording of international transactions and the impact of these transactions on the Australian economy. Students examine the effects of changes in Australia's economic transactions with the rest of the world using recent (the last ten years) and contemporary (the last three years) economic data, together with economic models.

Economics ATAR

Year 12

Unit 4: Economic policies and management

The unit explores how economic policies and actions, such as fiscal policy, monetary policy and microeconomic policy operate in the pursuit of the Australian Government's economic objectives. Students examine the effects of the operation of policies in Australia using economic models along with recent (the last ten years) and contemporary (the last three years) economic data. Students apply the language, theories and tools of economics to develop a critical perspective on the role of these policies in the current Australian Government policy mix.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|----------------------------------|-----------|
| Data interpretation/Short answer | 30% |
| Extended answer | 40% |
| Examination | 30% |

Geography ATAR

The study of the Geography ATAR course draws on students' curiosity about the diversity of the world's places and their peoples, cultures and environments. It provides students with the knowledge and understanding of the nature, causes and consequences of natural and ecological hazards, international integration in a range of spatial contexts, land cover transformations, and the challenges affecting the sustainability of places. In the ATAR course, students learn how to collect information from primary and secondary sources, such as field observation and data collection, mapping, monitoring, remote sensing, case studies and reports.

Geography ATAR

Year 11

Unit 1: Natural and ecological hazards

Natural and ecological hazards represent potential sources of harm to human life, health, income and property, and may affect elements of the biophysical, managed and constructed elements of environments.

This unit focuses on understanding how these hazards and their associated risks are perceived and managed at local, regional and global levels. Risk management, in this particular context, refers to prevention, mitigation and preparedness. Prevention is concerned with the long-term aspects of hazards, and focuses on avoiding the risks associated with their reoccurrence. Mitigation is about reducing or eliminating the impact if the hazard does happen. Preparedness refers to actions carried out prior to the advance notice of a hazard to create and maintain the capacity of communities to respond to, and recover from, natural disasters. Preparedness starts at the local community level, but may branch out to national and international levels through measures such as planning, community education, information management, communications and warning systems.

Building on their existing geographical knowledge and understandings, students explore natural hazards, including atmospheric, hydrological and geomorphic hazards, for example, storms, cyclones, tornadoes, frosts, droughts, bushfires, flooding, earthquakes, volcanoes and landslides. They will also explore ecological hazards, for example, environmental diseases/pandemics (toxin-based respiratory ailments, infectious diseases, animal-transmitted diseases and water-borne diseases) and plant and animal invasions.

Students develop an understanding about using and applying geographical inquiry tools, such as spatial technologies, and skills, to model, assess and forecast risk, and to investigate the risks associated with natural and ecological hazards. The potential for fieldwork depends on the hazard selected, such as a visit to the town of Meckering to study earthquakes, or the impact of a specific cyclone, flood or bushfire on a town or region.

Geography ATAR

Year 11

Unit 2: Global networks and interconnections

This unit focuses on the process of international integration (globalisation) and is based on the reality that we live in an increasingly interconnected world. It provides students with an understanding of the economic and cultural transformations taking place in the world today, the spatial outcomes of these processes, and their political and social consequences. This is a world in which advances in transport and telecommunications technologies have not only transformed global patterns of production and consumption but also facilitated the diffusion of ideas and elements of cultures. The unit explains how these advances in transport and communication technology have lessened the friction of distance and have impacted at a range of local, national and global scales. Cultural groups that may have been isolated in the early twentieth century are now linked across an interconnected world in which there is a 'shrinking' of time and space. Of particular interest are the ways in which people adapt and respond to these changes.

Students have the opportunity to explore the ideas developed in the unit through an investigation of the changes taking place in the spatial distribution of the production and consumption of a selected commodity, good or service and the study of an example of cultural diffusion, adoption and adaptation. They also investigate the ways people embrace, adapt to, or resist the forces of international integration.

While the scale of the study in this unit begins with the global, locally based examples can be used to enhance students' conceptual understanding. The scale of the study for both depth studies, unless specified, can range from local to global, as appropriate.

Students develop an understanding about using and applying geographical inquiry methods, tools (such as spatial technologies), and skills to investigate the transformations taking place throughout the world.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|-----------------------------|-----------|
| Geographical inquiry | 20% |
| Fieldwork/practical skills | 20% |
| Short and extended response | 30% |
| Examination | 30% |

Unit 3: Global environmental change

This unit focuses on the changing biophysical cover of the Earth’s surface, the creation of anthropogenic biomes and the resulting impacts on either global climate or biodiversity. Land cover transformations have changed both global climate and biodiversity through their interaction with atmospheric and ecological systems. Conversely, climate change and loss of biodiversity are producing further transformations in land cover. Through applying the concept of sustainability, students are given the opportunity to examine and evaluate a program designed to address the negative effect of land cover change. Aspects of physical, environmental and human geography provide students with an integrated and comprehensive understanding of the processes related to land cover change, their local, regional and global environmental consequences, and possible sustainable solutions.

The Earth’s surface is constantly changing and all environments are, to a greater or lesser extent, being modified by human activity. Students examine the processes causing change in land cover. The scale at which these processes are occurring is so extensive that very few truly ‘natural’ environments still exist and most are now, to some degree, anthropogenic in nature. Human action has altered local and regional climates and hydrology, damaged ecosystem services, contributed to the loss of biodiversity and altered soils.

This unit begins with an overview of land cover change drawn from different regions and countries. Two depth studies provide greater detail. The first study focuses on the interrelationship between land cover and either global climate change or biodiversity loss. The second study focuses on the evaluation of a local land cover change initiative designed to address either climate change or biodiversity loss.

In undertaking these depth studies, students develop an understanding of the use and application of geographical inquiry, tools such as spatial technologies, fieldwork and other skills, to investigate human–environment systems.

Unit 4: Planning sustainable places

Challenges exist in designing urban places to render them more productive, vibrant and sustainable. How people respond to these challenges, individually and collectively, will influence the sustainability and liveability of places into the future. While all places are subject to changes produced by economic, demographic, social, political and environmental processes, the outcomes of these processes vary depending on local responses, adaptations and planning practices.

Urban planning involves a range of stakeholders who contribute to decision making and the planning process. Students examine how governments, planners, communities, interest groups and individuals attempt to address these challenges in order to ensure that places are sustainable. They also investigate the ways in which geographical knowledge and skills can be applied to identify and address these challenges. The present and future needs of society are addressed by the allocation and reallocation of land uses, improving infrastructure and transport systems and enhancing amenities to meet the needs of the population as perceived by the different perspectives of the various stakeholders.

The unit begins with a global scale overview of the process of urbanisation and its consequences. Urbanisation not only affects human wellbeing and the rate of world population growth, it has created a range of challenges for urban, rural and remote places, including Indigenous communities. The interconnected challenges faced in places, and other matters related to liveability, are a focus of this unit.

Two depth studies provide greater detail. The first study focuses on challenges in metropolitan Perth or a regional urban centre in Western Australia. The second study focuses on challenges faced in a megacity. Students examine the concepts, processes and roles of planning in these selected contexts. This approach enables students to also develop an understanding of the challenges in two urban places.

In undertaking these depth studies, students will use and apply geographical tools, such as spatial technologies and skills, to investigate the sustainability of places.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|-----------------------------|-----------|
| Geographical inquiry | 15% |
| Fieldwork/practical skills | 15% |
| Short and extended response | 30% |
| Examination | 30% |

Modern History ATAR

Studying the Modern History ATAR course enables students to become critical thinkers and helps inform their judgements and actions in a rapidly changing world. Students are exposed to a variety of historical sources, including government papers, extracts from newspapers, letters, diaries, photographs, cartoons, paintings, graphs and secondary sources, in order to determine the cause and effect, and the motives and forces influencing people and events. Through the process of historical inquiry, students are encouraged to question and evaluate historical sources; identify various representations and versions of history; use evidence to formulate and support their own interpretations; and communicate their findings in a variety of ways.

Modern History ATAR is a returning course in 2020 and will only be running as a Year 11 subject which will flow into Year 12 in 2021.

Modern History ATAR
Year 11

Unit 1: Understanding the modern world

This unit examines developments of significance in the modern era, including the ideas that inspired them and their far-reaching consequences. Students examine one development or turning point that has helped to define the modern world. Students explore crucial changes, for example, the application of reason to human affairs; the transformation of production, capitalism and consumption, transport and communications; the challenge to social hierarchy and hereditary privilege, and the assertion of inalienable rights; and the new principles of government by consent. Through their studies, students explore the nature of the sources for the study of modern history and build their skills in historical method through inquiry.

The key conceptual understandings covered in this unit are: what makes an historical development significant; the changing nature and usefulness of sources; the changing representations and interpretations of the past; and the historical legacy of these developments for the Western world and beyond.

Modern History ATAR
Year 11

Unit 2: Movements for change in the 20th century

This unit examines significant movements for change in the 20th century that led to change in society, including people's attitudes and circumstances. These movements draw on the major ideas described in

Unit 1, have been connected with democratic political systems, and have been subject to political debate. Through a detailed examination of one major 20th century movement, students investigate the ways in which individuals, groups and institutions have challenged existing political structures, accepted social organisation, and prevailing economic models, to transform societies. The key conceptual understandings covered in this unit are: the factors leading to the development of movements; the methods adopted to achieve effective change; the changing nature of these movements; and changing perspectives of the value of these movements and how their significance is interpreted.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Historical inquiry | 20% |
| Explanation | 20-30% |
| Source analysis | 20-30% |
| Examination | 30% |

Modern History ATAR
Year 12

Unit 3: Modern nations in the 20th century

This unit examines the characteristics of modern nations in the 20th century; the crises that confronted nations, their responses to these crises and the different paths nations have taken to fulfil their goals. Students study the characteristics of one nation. Students investigate crises that challenged the stability of government, the path of development that was taken and the social, economic and political order that was either established or maintained. Students examine the ways in which the nation dealt with internal divisions and external threats. They emerge with a deeper understanding of the character of a modern nation. The key conceptual understandings covered in this unit are the reliability and usefulness of evidence; cause and effect; continuity and change; significance; empathy; contestability; and changing representations and interpretations.

Unit 4: The modern world since 1945

This unit examines some significant and distinctive features of the modern world within the period 1945–2001 in order to build students' understanding of the contemporary world – that is, why we are here at this point in time. These include changes to the nature of the world order: shifting international tensions, alliances and power blocs; the emergence of Asia as a significant international political and economic force, and the nature of engagement by and with Australia; the nature of various conflicts and regional and international attempts to create peace and security. Students study one of these features. As part of their study, they should follow and make relevant connections with contemporary events. The key conceptual understandings covered in this unit are: causation; continuity and change; historical significance and changing perspectives and interpretations of the past; and contestability.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Historical inquiry | 20% |
| Explanation | 20% |
| Source analysis | 20% |
| Examination | 40% |

Mathematics

Mathematics Essential General

The Mathematics Essential General course focuses on using mathematics effectively, efficiently and critically to make informed decisions. It provides students with the mathematical knowledge, skills and understanding to solve problems in real contexts for a range of workplace, personal, further learning and community settings. This course provides the opportunity for students to prepare for post-school options of employment and further training.

Mathematics Essential General

Year 11

Unit 1

This unit provides students with the mathematical skills and understanding to solve problems relating to calculations, applications of measurement, the use of formulas to find an unknown quantity and the interpretation of graphs. Throughout this unit, students use the mathematical thinking process. This process should be explicitly taught in conjunction with the unit content. Teachers are advised to apply the content of the four topics in this unit: Basic calculations, percentages and rates; Algebra; Measurement; and Graphs, in contexts which are meaningful and of interest to their students. Possible contexts for this unit are Earning and managing money and Nutrition and health.

It is assumed that an extensive range of technological applications and techniques will to be used in teaching this unit. The ability to choose when or when not to use some form of technology, and the ability to work flexibly with technology, are important skills.

The number formats for the unit are whole numbers, decimals, common fractions, common percentages, square and cubic numbers written with powers.

Mathematics Essential General

Year 11

Unit 2

This unit provides students with the mathematical skills and understanding to solve problems related to representing and comparing data, percentages, rates and ratios and time and motion. Students further develop the use of the mathematical thinking process and apply the statistical investigation process. The statistical

investigation process should be explicitly taught in conjunction with the statistical content within this unit. Teachers are advised to apply the content of the four topics in this unit: Representing and comparing data; Percentages; Rates and ratios; and Time and motion, in a context which is meaningful and of interest to their students. Possible contexts for this unit are Transport and Independent living.

It is assumed that students will be taught this course with an extensive range of technological applications and techniques. The ability to be able to choose when or when not to use some form of technology and to be able to work flexibly with technology are important skills.

The number formats for the unit are whole numbers, decimals, fractions and percentages, rates and ratios.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|---|-----------|
| Response | 50% |
| Practical applications (included in both Unit 1 and Unit 2) | 50% |
| Statistical investigation process (included in Unit 2 only.) | |

Mathematics Essential General

Year 12

Unit 3

This unit provides students with the mathematical skills and understanding to solve problems related to measurement, scales, plans and models, drawing and interpreting graphs and data collection. Students use the mathematical thinking process and apply the statistical investigation process. Teachers are encouraged to apply the content of the four topics in this unit: Measurement; Scales, plans and models; Graphs in practical situations; and Data collection, in a context which is meaningful and of interest to the students. A variety of approaches could be used to achieve this purpose. Possible contexts for this unit are Construction and design, and Medicine.

It is assumed that an extensive range of technological applications and techniques will be used in teaching this unit. The ability to choose when, and when not, to use some form of technology, and the ability to work flexibly with technology, are important skills.

The number formats for the unit are positive and negative numbers, decimals, fractions, percentages, rates, ratios, square and cubic numbers written with powers and square roots.

Mathematics Essential General

Year 12

Unit 4

This unit provides students with the mathematical skills and understanding to solve problems related to probability, earth geometry and time zones, loans and compound interest. Students use the mathematical thinking process and apply the statistical investigation process to solve problems involving probability. Teachers are advised to apply the content of the three topics in this unit: Probability and relative frequencies; Earth geometry and time zones; and Loans and compound interest, in a context which is meaningful and of interest to the students. Possible contexts for this unit are Finance, and Travel.

It is assumed that an extensive range of technological applications and techniques will

be used in teaching this unit. The ability to choose when, and when not, to use some form of technology, and the ability to work flexibly with technology, are important skills.

The number formats for the unit are positive and negative numbers, decimals, fractions, percentages, rates, ratios and numbers expressed with integer powers.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|-----------------------------------|-----------|
| Response | 40% |
| Practical applications | 45% |
| Statistical investigation process | |
| Externally Set Task | 15% |

Mathematics Applications ATAR

This course focuses on the use of mathematics to solve problems in contexts that involve financial modelling, geometric and trigonometric analysis, graphical and network analysis, and growth and decay in sequences. It also provides opportunities for students to develop systematic strategies based on the statistical investigation process for answering statistical questions that involve analysing univariate and bivariate data, including time series data. The Mathematics Applications ATAR course is designed for students who want to extend their mathematical skills beyond Year 10 level, but whose future studies or employment pathways do not require knowledge of calculus. The course is designed for students who have a wide range of educational and employment aspirations, including continuing their studies at university or TAFE.

Mathematics Applications ATAR

Year 11

Unit 1

This unit has three topics: 'Consumer arithmetic', 'Algebra and matrices', and 'Shape and measurement'.

'Consumer arithmetic' reviews the concepts of rate and percentage change in the context of earning and managing money and provides a fertile ground for the use of spread sheets.

'Algebra and matrices' continues the Year 7-10 curriculum study of algebra and introduces the topic of matrices. The emphasis of this topic is the symbolic representation and manipulation of information from real-life contexts using algebra and matrices.

'Shape and measurement' builds on and extends the knowledge and skills students developed in the Year 7-10 curriculum with the concept of

similarity and associated calculations involving simple geometric shapes. The emphasis in this topic is on applying these skills in a range of practical contexts, including those involving three-dimensional shapes.

Classroom access to the technology necessary to support the computational aspects of the topics in this unit is assumed.

Mathematics Applications ATAR

Year 11

Unit 2

This unit has three topics: 'Univariate data analysis and the statistical process', 'Linear equations and their graphs', and 'Applications of trigonometry'.

'Univariate data analysis and the statistical process' develops students' ability to organise and summarise univariate data in the context of conducting a statistical investigation.

'Linear equations and their graphs' uses linear equations and straight-line graphs, as well as linear-piece-wise and step graphs to model and analyse practical situations.

'Applications of trigonometry' extends students' knowledge of trigonometry to solve practical problems involving non-right-angled triangles in both two and three dimensions, including problems involving the use of angles of elevation and depression and bearings in navigation.

Classroom access to the technology necessary to support the graphical, computational and statistical aspects of this unit is assumed.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Response | 40% |
| Investigation | 20% |
| Examination | 40% |

Mathematics Applications ATAR

Year 12

Unit 3

This unit has three topics: 'Univariate data analysis and the statistical process', 'Linear equations and their graphs', and 'Applications of trigonometry'.

'Univariate data analysis and the statistical process' develops students' ability to organise and summarise univariate data in the context of conducting a statistical investigation.

'Linear equations and their graphs' uses linear equations and straight-line graphs, as well as linear-piece-wise and step graphs to model and analyse practical situations.

'Applications of trigonometry' extends students' knowledge of trigonometry to solve practical problems involving non-right-angled triangles in both two and three dimensions, including problems involving the use of angles of elevation and depression and bearings in navigation.

Classroom access to the technology necessary to support the graphical, computational and statistical aspects of this unit is assumed.

Mathematics Applications ATAR

Year 12

Unit 4

This unit has three topics: 'Time series analysis', 'Loans, investments and annuities', and '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.

'Networks and decision mathematics' uses networks to model and aid decision making in practical situations.

Classroom access to the technology necessary to support the graphical, computational and statistical aspects of this unit is assumed.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Response | 40% |
| Investigation | 20% |
| Examination | 40% |

Mathematics Methods ATAR

This course focuses on the use of calculus and statistical analysis. The study of calculus provides a basis for understanding rates of change in the physical world, and includes the use of functions, their derivatives and integrals, in modelling physical processes. The study of statistics develops students' ability to describe and analyse phenomena that involve uncertainty and variation.

Mathematics Methods provides a foundation for further studies in disciplines in which mathematics and statistics have important roles. It is also advantageous for further studies in the health and social sciences. In summary, this course is designed for students whose future pathways may involve mathematics and statistics and their applications in a range of disciplines at the tertiary level.

Mathematics Methods ATAR

Year 11

Unit 1

This unit begins with a review of the basic algebraic concepts and techniques required for a successful introduction to the study of calculus. The basic trigonometric functions are then introduced. Simple relationships between variable quantities are reviewed, and these are used to introduce

the key concepts of a function and its graph. The study of inferential statistics begins in this unit with a review of the fundamentals of probability and the introduction of the concepts of counting, conditional probability and independence. Access to technology to support the computational and graphical aspects of these topics is assumed.

Mathematics Methods ATAR

Year 11

Unit 2

The algebra section of this unit focuses on exponentials. Their graphs are examined and their applications in a wide range of settings are explored. Arithmetic and geometric sequences are introduced and their applications are studied. Rates and average rates of change are introduced, and this is followed by the key concept of the derivative as an 'instantaneous rate of change'. These concepts are reinforced numerically, by calculating difference quotients both geometrically as slopes of chords and tangents, and algebraically. Calculus is developed to study the derivatives of polynomial functions, with simple application of the derivative to curve sketching, the calculation of slopes and

equations of tangents, the determination of instantaneous velocities and the solution of optimisation problems. The unit concludes with a brief consideration of anti-differentiation.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Response | 40% |
| Investigation | 20% |
| Examination | 40% |

Mathematics Methods ATAR

Year 12

Unit 3

The study of calculus continues with the derivatives of exponential and trigonometric functions and their applications, together with some differentiation techniques and applications to optimisation problems and graph sketching. It concludes with 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. In statistics, discrete random variables are introduced, together with their uses in modelling random processes involving chance and variation. This supports the development of a framework for statistical inference.

Access to technology to support the computational aspects of these topics is assumed.

Mathematics Methods ATAR

Year 12

Unit 4

The calculus in this unit deals with derivatives of logarithmic functions. In probability and statistics, continuous random variables and their applications are introduced and the normal distribution is used in a variety of contexts. The study of statistical inference in this unit is the culmination of earlier work on probability and random variables. Statistical inference is one of the most important parts of statistics, in which the goal is to estimate an unknown parameter associated with a population using a sample of data drawn from that population. In the Mathematics Methods ATAR course, statistical inference is restricted to estimating proportions in two-outcome populations.

Access to technology to support the computational aspects of these topics is assumed.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Response | 40% |
| Investigation | 20% |
| Examination | 40% |

Mathematics Specialist ATAR

This course provides opportunities, beyond those presented in the Mathematics Methods ATAR course, to develop rigorous mathematical arguments and proofs, and to use mathematical models more extensively. Mathematics Specialist contains topics in functions and calculus that build on and deepen the ideas presented in the Mathematics Methods course, as well as demonstrate their application in many areas. The Mathematics Specialist course also extends understanding and knowledge of statistics and introduces the topics of vectors, complex numbers and matrices. Mathematics Specialist is the only ATAR mathematics course that should not be taken as a stand-alone course and it is recommended to be studied in conjunction with the Mathematics Methods ATAR course as preparation for entry to specialised university courses such as engineering, physical sciences and mathematics.

Mathematics Specialist ATAR

Year 11

Unit 1

Unit 1 of the Mathematics Specialist ATAR course contains three topics: Combinatorics, Vectors in the plane, and Geometry that complement the content of the Mathematical Methods ATAR course. The proficiency strand, Reasoning, of the Year 7-10 curriculum is continued explicitly in Geometry through a discussion of developing mathematical arguments. While these ideas are illustrated through deductive Euclidean geometry in this topic, they recur throughout all topics in the Mathematics Specialist ATAR course. Geometry also provides the opportunity to summarise and extend students' studies in Euclidean Geometry. An understanding of this topic is of great benefit in the study of later topics in the course, including vectors and complex numbers.

Vectors in the plane provides new perspectives for working with two-dimensional space and serves as an introduction to techniques that will be extended to three-dimensional space in Unit 3.

Combinatorics provides techniques that are useful in many areas of mathematics, including probability and algebra. All topics develop students' ability to construct mathematical arguments.

The three topics considerably broaden students' mathematical experience and therefore begin an awakening to the breadth and utility of the course. They also enable students to increase their mathematical flexibility and versatility.

Access to technology to support the computational aspects of these topics is assumed.

Mathematics Specialist ATAR

Year 11

Unit 2

Unit 2 of the Mathematics Specialist ATAR course contains three topics: Trigonometry, Matrices, and Real and complex numbers.

Trigonometry contains techniques that are used in other topics in both this unit and Unit 3. Real and complex numbers provides a continuation of students' study of numbers, and the study of complex numbers is continued in Unit 3. This topic also contains a section on proof by mathematical induction. The study of Matrices is undertaken, including applications to linear transformations of the plane.

Access to technology to support the computational aspects of these topics is assumed.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Response | 40% |
| Investigation | 20% |
| Examination | 40% |

Mathematics Specialist ATAR

Year 12

Unit 3

Unit 3 of the Mathematics Specialist ATAR course contains three topics: Complex numbers, Functions and sketching graphs and Vectors in three dimensions. The study of vectors was introduced in Unit 1 with a focus on vectors in two-dimensional space. In this unit, three-dimensional vectors are studied and vector equations and vector calculus are introduced, with the latter extending students' knowledge of calculus from the Mathematics Methods ATAR course. Cartesian and vector equations, together with equations of planes, enables students to solve geometric problems and to solve problems involving motion in three-dimensional space. The Cartesian form of complex numbers was introduced in Unit 2, and the study of complex numbers is now extended to the polar form.

The study of functions and techniques of graph sketching, begun in the Mathematics Methods

ATAR course, is extended and applied in sketching graphs and solving problems involving integration.

Access to technology to support the computational aspects of these topics is assumed.

Mathematics Specialist ATAR

Year 12

Unit 4

Unit 4 of the Mathematics Specialist ATAR course contains three topics: Integration and applications of integration, Rates of change and differential equations and Statistical inference.

In Unit 4, the study of differentiation and integration of functions continues, and the calculus techniques developed in this and previous topics are applied to simple differential equations, in particular in biology and kinematics. These topics demonstrate the real-world applications of the mathematics learned throughout the Mathematics Specialist ATAR course.

In this unit, all of the students' previous experience working with probability and statistics is drawn together in the study of statistical inference for the distribution of sample means and confidence intervals for sample means.

Access to technology to support the computational aspects of these topics is assumed.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Response | 40% |
| Investigation | 20% |
| Examination | 40% |

Science

Integrated Science General

The Integrated Science General course enables students to investigate science issues in the context of the world around them. It encourages students to develop their scientific skills of curiosity, observation, collection and analysis of evidence, in a range of contexts. The multidisciplinary approach, including aspects of biology, chemistry, geology and physics, further encourages students to be curious about the world around them and assume a balanced view of the benefits and challenges presented by science and technology. Students conduct practical investigations that encourage them to apply what they have learnt in class to real-world situations and systems.

Integrated Science General

Year 11

Unit 1

In this unit, students develop an understanding of the processes involved in the functioning of systems from the macro level (cycles in nature and Earth systems) to systems at the organism, cellular and molecular level. They investigate and describe the effect of human activity on the functioning of cycles in nature. By integrating their understanding of Earth and biological systems, students come to recognise the interdependence of these systems.

Students investigate structure and function of cells, organs and organisms, and the interrelationship between the biological community and the physical environment. They use a variety of practical activities to investigate patterns in relationships between organisms.

Practical experiences form an important part of this course. They provide valuable opportunities for students to work together to collect and interpret first-hand data in the field or the laboratory. In order to understand the interconnectedness of organisms to their physical environment, and the impact of human activity, students analyse and interpret data collected through investigations in the context studied. They will also use sources relating to other Australian, regional and global environments.

The context that is used to teach all the key concepts should be broad and integrate all areas of science to assist in the delivery of the key concepts. It should engage students, have local real-life application, and be relevant to the student's everyday life.

Integrated Science General

Year 11

Unit 2

In this unit, students develop an understanding of the processes involved in the transformations and redistributions of matter and energy in biological, chemical and physical systems, from the atomic to the macro level. Students will investigate the properties of elements, compounds and mixtures, and how substances interact with each other in chemical reactions to produce new substances. They explore the concepts of forces, energy and motion and recognise how an increased understanding of scientific concepts has led to the development of useful technologies and systems.

Practical experiences are an important part of this course that provide valuable opportunities for students to work together to collect and interpret first-hand data. In order to understand the interconnectedness of organisms to their physical environment, and the impact of human activity, students analyse and interpret data collected through investigation of the context studied. They will also use sources relating to other Australian, regional and global environments.

The context that is used to teach all the key concepts should be broad and integrate all areas of science to assist in the delivery of the key concepts. It should engage students, have local real-life application, and be relevant to the student's everyday life.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Science Inquiry | 50% |
| Practical | |
| Investigation | |
| Extended Response | 30% |
| Test | 20% |

Integrated Science General

Year 12

Unit 3

In this unit, students integrate ideas relating to the processes involved in the movement of energy and matter in ecosystems. They investigate and describe a number of diverse ecosystems, exploring the range of living and non-living components, to understand the dynamics, diversity and interrelationships of these systems.

They investigate ecosystem dynamics, including interactions within and between species, and interactions between living and non-living components of ecosystems. They also investigate how measurements of population numbers, species diversity, and descriptions of species interactions, can form the basis for comparisons between ecosystems.

Fieldwork is an important part of this course.

Fieldwork provides valuable opportunities for students to work together to collect first-hand data and to experience local ecosystem interactions. In order to understand the interconnectedness of organisms, the physical environment and human activity, students analyse and interpret data collected through investigation of a local environment. They will also use sources relating to other Australian, regional and global environments.

Integrated Science General

Year 12

Unit 4

This unit provides students with the opportunity to conduct scientific investigations that will increase their understanding of important scientific concepts and processes. Students will explore the properties of chemical substances that determine their use, and the techniques involved in separating mixtures and solutions. They will investigate forces acting upon an object and the effects of kinetic, potential and heat energy on objects. Students will discover the way in which increases in the understanding of scientific concepts have led to the development of useful technologies and systems.

Practical experiences are an essential part of the Integrated Science General course. Investigations and experimentation should be incorporated into the delivery of the course and designed to

further develop the students' skills in the areas of formulating hypothesis, planning, conducting, representing data in meaningful ways, interpreting data and scientific texts, and communicating findings to specific audiences using ICT and multimodal formats.

The context that is used to teach the key concepts should be broad and integrate all areas of science to assist in the delivery of the key concepts. It should engage students, have local real-life application, and be relevant to the student's everyday life.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|---------------------|-----------|
| Science Inquiry | 40% |
| Practical | |
| Investigation | |
| Extended Response | 30% |
| Test | 15% |
| Externally Set Task | 15% |

Biology ATAR

A unique appreciation of life and a better understanding of the living world are gained through studying the Biology ATAR course. This course encourages students to be analytical, to participate in problem-solving and to systematically explore fascinating and intriguing aspects of living systems, from the microscopic level through to ecosystems.

Students develop a range of practical skills and techniques through investigations and fieldwork in authentic contexts, such as marine reefs, endangered species, urban ecology, or biotechnology. Scientific evidence is used to make informed decisions about controversial issues.

Biology ATAR

Year 11

Unit 1: Ecosystems and biodiversity

The current view of the biosphere as a dynamic system composed of Earth's diverse, interrelated and interacting ecosystems developed from the work of eighteenth and nineteenth century naturalists who collected, classified, measured and mapped the distribution of organisms and environments around the world. In this unit, students investigate and describe a number of diverse ecosystems, exploring the range of biotic and abiotic components to understand the

dynamics, diversity and underlying unity of these systems.

Students develop an understanding of the processes involved in the movement of energy and matter in ecosystems. They investigate ecosystem dynamics, including interactions within and between species, and interactions between abiotic and biotic components of ecosystems. They also investigate how measurements of abiotic factors, population numbers and species diversity, and descriptions of species interactions, can form the basis for spatial and temporal comparisons between ecosystems. Students use classification keys to identify organisms, describe the biodiversity in ecosystems, investigate patterns in relationships between organisms, and aid scientific communication.

Through the investigation of appropriate contexts, students explore how international collaboration, evidence from multiple disciplines and the use of ICT and other technologies have contributed to the study and conservation of national, regional and global biodiversity. They investigate how scientific knowledge is used to offer valid explanations and reliable predictions, and the ways in which scientific knowledge interacts with social, economic, cultural and ethical factors.

Fieldwork is an important part of this unit. Fieldwork provides valuable opportunities for

students to work together to collect first-hand data and to experience local ecosystem interactions. In order to understand the interconnectedness of organisms, the physical environment and human activity, students analyse and interpret data collected through investigation of a local environment. They will also use sources relating to other Australian, regional and global environments.

Biology ATAR

Year 11

Unit 2: From single cells to multicellular organisms

The cell is the basic unit of life. Although cell structure and function are very diverse, all cells possess some common features: all prokaryotic and eukaryotic cells need to exchange materials with their immediate external environment in order to maintain the chemical processes vital for cell functioning. In this unit, students examine inputs and outputs of cells to develop an understanding of the chemical nature of cellular systems, both structurally and functionally, and the processes required for cell survival. Students investigate the ways in which matter moves and energy is transformed and transferred in the processes of photosynthesis and respiration, and the role of enzymes in controlling biochemical systems.

Multicellular organisms typically consist of a number of interdependent systems of cells organised into tissues, organs and organ systems. Students examine the structure and function of plant and animal systems at cell and tissue levels in order to describe how they facilitate the efficient provision or removal of materials to and from all cells of the organism.

Through the investigation of appropriate contexts, students explore how international collaboration, evidence from multiple disciplines and the use of ICT and other technologies have contributed to developing understanding of the structure and function of cells and multicellular organisms. They investigate how scientific knowledge is used to offer valid explanations and reliable predictions, and the ways in which scientific knowledge interacts with economic and ethical factors.

Students use science inquiry skills to explore the relationship between structure and function by conducting real or virtual dissections and carrying out microscopic examination of cells and tissues. Students consider the ethical considerations that apply to the use of living organisms in research. They develop skills in constructing and using models to describe and interpret data about the functions of cells and organisms.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Science Inquiry | 30% |
| Practical | |
| Investigation | |
| Extended Response | 10% |
| Test | 20% |
| Examination | 40 |

Biology ATAR

Year 12

Unit 3: Continuity of species

Heredity is an important biological principle as it explains why offspring (cells or organisms) resemble their parent cell or organism. Organisms require cellular division and differentiation for growth, development, repair and sexual reproduction. In this unit, students investigate the biochemical and cellular systems and processes involved in the transmission of genetic material to the next generation of cells and to offspring. They consider different patterns of inheritance by analysing the possible genotypes and phenotypes of offspring. Students link their observations to explanatory models that describe patterns of inheritance and explore how the use of predictive models of inheritance enables decision making.

Students investigate the genetic basis for the theory of evolution by natural selection through constructing, using and evaluating explanatory and predictive models for gene pool diversity of populations. They explore genetic variation in gene pools, selection pressures and isolation effects in order to explain speciation and extinction events and to make predictions about future changes to populations.

Through the investigation of appropriate contexts, students explore the ways in which models and theories related to heredity and population genetics, and associated technologies, have developed over time. They investigate the ways in which science contributes to contemporary debate about local, regional and international issues, including evaluation of risk and action for sustainability, and recognise the limitations of science to provide definitive answers in different contexts.

Students use science inquiry skills to design and conduct investigations into how different factors affect cellular processes and gene pools; they construct and use models to analyse the data gathered; and they continue to develop their skills in constructing plausible predictions and valid, reliable conclusions.

Biology ATAR

Year 12

Unit 4: Surviving in a Changing Environment

In order to survive, organisms must be able to maintain system structure and function in the face of changes in their external and internal environments. Changes in temperature and water availability, and the incidence and spread of infectious disease, present significant challenges for organisms and require coordinated system responses. In this unit, students investigate how homeostatic response systems control organisms' responses to environmental change – internal and external – in order to survive in a variety of environments, as long as the conditions are within their tolerance limits. Students study changes in the global distribution of vector-borne infectious diseases. They consider the factors that contribute to the spread of infectious disease and how outbreaks of infectious disease can be predicted, monitored and contained.

Through the investigation of appropriate contexts, students explore the ways in which models and theories of organisms' and populations' responses

to environmental change have developed over time. They investigate the ways in which science contributes to contemporary debate about local, regional and international issues, including evaluation of risk and action for sustainability, and recognise the limitations of science to provide definitive answers in different contexts.

Students use science inquiry skills to investigate a range of responses by plants and animals to changes in their environments; they construct and use appropriate representations to analyse the data gathered; and they continue to develop their skills in constructing plausible predictions and valid conclusions.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Science Inquiry | 20% |
| Practical | |
| Investigation | |
| Extended Response | 10% |
| Test | 20% |
| Examination | 50% |

Chemistry ATAR

The Chemistry ATAR course equips students with the knowledge, understanding and opportunity to investigate properties and reactions of materials. Theories and models are used to describe, explain and make predictions about chemical systems, structures and properties. Students recognise hazards and make informed, balanced decisions about chemical use and sustainable resource management. Investigations and laboratory activities develop an appreciation of the need for precision, critical analysis and informed decision making.

This course prepares students to be responsible and efficient users of specialised chemical products and processes at home or in the workplace. It also enables students to relate chemistry to other sciences, including biology, geology, medicine, molecular biology and agriculture, and prepares them for further study in the sciences.

Chemistry ATAR

Year 11

Unit 1: Chemical fundamentals: structure, properties and reactions

Chemists design and produce a vast range of materials for many purposes, including for fuels, cosmetics, building materials and pharmaceuticals. As the science of chemistry has developed over time, there has been an increasing realisation that the properties of a material depend on, and can

be explained by, the material's structure. A range of models at the atomic and molecular scale enable explanation and prediction of the structure of materials and how this structure influences properties and reactions. In this unit, students relate matter and energy in chemical reactions as they consider the breaking and reforming of bonds as new substances are produced. Students can use materials that they encounter in their lives as a context for investigating the relationships between structure and properties.

Through the investigation of appropriate contexts, students explore how evidence from multiple disciplines and individuals have contributed to developing understanding of atomic structure and chemical bonding. They explore how scientific knowledge is used to offer reliable explanations and predictions, and the ways in which it interacts with social, economic and ethical factors.

Students use science inquiry skills to develop their understanding of patterns in the properties and composition of materials. They investigate the structure of materials by describing physical and chemical properties at the macroscopic scale, and use models of structure and primary bonding at the atomic and sub-atomic scale to explain these properties. They are introduced to the mole concept as a means of quantifying matter in chemical reactions.

Chemistry ATAR

Year 11

Unit 2: Molecular Interactions and reactions

Students develop their understanding of the physical and chemical properties of materials, including gases, water and aqueous solutions, acids and bases. Students explore the characteristic properties of water that make it essential for physical, chemical and biological processes on Earth, including the properties of aqueous solutions. They investigate and explain the solubility of substances in water, and compare and analyse a range of solutions. They learn how rates of reaction can be measured and altered to meet particular needs, and use models of energy transfer and the structure of matter to explain and predict changes to rates of reaction. Students gain an understanding of how to control the rates of chemical reactions, including through the use of a range of catalysts.

Through the investigation of appropriate contexts, students explore how evidence from multiple disciplines and individuals have contributed to developing understanding of intermolecular forces and chemical reactions. They explore how scientific knowledge is used to offer reliable explanations and predictions, and the ways in which it interacts with social, economic and ethical factors.

Students use a range of practical and research inquiry skills to investigate chemical reactions, including the prediction and identification of products and the measurement of the rate of reaction. They investigate the behaviour of gases, and use the Kinetic Theory to predict the effects of changing temperature, volume and pressure in gaseous systems.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Science Inquiry | 25% |
| Practical | |
| Investigation | |
| Extended Response | 10% |
| Test | 15% |
| Examination | 50% |

Chemistry ATAR

Year 12

Unit 3: Equilibrium, acids and bases, and redox reactions

The idea of reversibility of reaction is vital in a variety of chemical systems at different scales, ranging from the processes that release carbon dioxide into our atmosphere to the reactions of ions within individual cells in our bodies. Processes that are reversible will respond to a range of factors and can achieve a state of dynamic equilibrium.

In this unit, students investigate acid-base

equilibrium systems and their applications. They use contemporary models to explain the nature of acids and bases, and their properties and uses. This understanding enables further exploration of the varying strengths of acids and bases. Students investigate the principles of oxidation and reduction reactions and the production of electricity from electrochemical cells.

Through the investigation of appropriate contexts, students explore the ways in which models and theories related to acid-base and redox reactions, and their applications, have developed over time and through interactions with social, economic and ethical considerations. They explore the ways in which chemistry contributes to contemporary debate in industrial and environmental contexts, including the use of energy, evaluation of risk and action for sustainability, and they recognise the limitations of science in providing definitive answers in different contexts.

Students use science inquiry skills to investigate the principles of dynamic chemical equilibrium and how these can be applied to chemical processes and systems. They investigate a range of electrochemical cells, including the choice of materials used and the voltage produced by these cells. Students use the pH scale to assist in making judgements and predictions about the extent of dissociation of acids and bases and about the concentrations of ions in an aqueous solution.

Chemistry ATAR

Year 12

Unit 4: Organic chemistry and chemical synthesis

This unit focuses on organic chemistry and the processes of chemical synthesis by which useful substances are produced for the benefit of society. Students investigate the relationship between the structure, properties and chemical reactions of different organic functional groups and the vast diversity of organic compounds. Students also develop their understanding of 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.

Through the investigation of appropriate contexts, students explore the ways in which models and theories have developed over time and through interactions with social, economic and ethical considerations. They explore the ways in which chemistry contributes to contemporary debate regarding current and future uses of local, regional and international resources, evaluate the risk and action for sustainability, and they recognise the limitations of science in providing definitive answers in different contexts.

Students use science inquiry skills to investigate the principles and application of chemical structure in organic chemistry, and of chemical synthesis processes. They make predictions based on knowledge of types of chemical reactions, and

investigate chemical reactions qualitatively and quantitatively.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Science Inquiry | 20% |
| Practical | |
| Investigation | |
| Extended Response | 10% |
| Test | 20% |
| Examination | 50% |

Earth & Environmental Science ATAR

This ATAR course explores our planet as a dynamic global system involving interactions between the geosphere, hydrosphere, atmosphere and the biosphere. A multidisciplinary approach, including geological and environmental sciences, encourages students to be curious about the world around them and to apply scientific principles to develop a balanced view of the benefits and challenges presented by the utilisation of resources. Management of environmental issues is explored, with students having opportunities to discuss issues and draw evidence-based conclusions. Students conduct practical investigations and have the opportunity to participate in field-based excursions that encourage them to apply what they have learnt in class to real world situations. This course provides an understanding of the minerals and energy industry and its contribution to Western Australia's economy.

Earth & Environmental Science ATAR
Year 11

Unit 1: Earth systems

The Earth consists of interacting systems, including the geosphere, atmosphere, hydrosphere and biosphere. A change in any one sphere can impact on others at a range of temporal and spatial scales. In this unit, students build on their existing knowledge of Earth by exploring the development of understanding of Earth's formation and its internal and surface structure. Students study the processes that formed the oceans and atmosphere. They review the origin and significance of water at Earth's surface, how water moves through the hydrological cycle, and the environments influenced by water, in particular, the oceans, ice sheets and groundwater.

Students critically examine the scientific evidence for the origin of life, linking this with their understanding of the evolution of Earth's hydrosphere and atmosphere. They review evidence from the fossil record that demonstrates the interrelationships between major changes in Earth's systems and the evolution and extinction of organisms. They investigate how changes in

Earth's systems influence the distribution and diversity of life on Earth.

They investigate how scientific knowledge is used to offer valid explanations and reliable predictions, and the ways in which it interacts with social, economic and cultural factors.

Students use science inquiry skills to engage in a range of investigations that help them develop the field and research skills used to interpret geological, historical and real-time scientific information.

Earth & Environmental Science ATAR
Year 11

Unit 2: Molecular Interactions and reactions

Earth system processes require energy. In this unit, students explore how the transfer and transformation of energy from the sun and Earth's interior enable and control processes within and between the geosphere, atmosphere, hydrosphere and biosphere. Students examine how the transfer and transformation of heat and gravitational energy in Earth's interior drive movements of Earth's tectonic plates. They analyse how the transfer of solar energy to Earth is influenced by the structure of the atmosphere; how air masses and ocean water move as a result of solar energy transfer and transformation to cause global weather patterns; and how changes in these atmospheric and oceanic processes can result in anomalous weather patterns.

Students use their knowledge of the photosynthetic process to understand the transformation of sunlight into other energy forms that are useful for living things. They explore how energy transfer and transformation in ecosystems are modelled and they review how biogeochemical cycling of matter in environmental systems involves energy use and energy storage.

Students investigate how scientific knowledge is used to offer evidence-based explanations and reliable predictions, and the ways in which it interacts with social, economic and cultural factors.

Students use inquiry skills to collect, analyse and interpret data relating to energy transfers and transformations and cycling of matter, and make inferences about the factors causing changes to movements of energy and matter in Earth systems.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Investigation | 30% |
| Extended Response | 10% |
| Test | 20% |
| Examination | 40% |

Earth & Environmental Science ATAR
Year 11

Unit 3: Managing Earth resources

Earth resources are required to sustain life and provide infrastructure for living, for example, food, shelter, medicines, transport, and communication, driving ongoing demand for mineral and energy resources and biotic resources. In this unit, students explore renewable and non-renewable resource formation and analyse the effects that resource extraction, sustainable use and associated rehabilitation processes have on Earth systems.

Students examine the occurrence of non-renewable mineral and energy resources and review how an understanding of Earth and environmental science processes guides resource exploration and extraction. They investigate how the rate of extraction is managed to sustain the quality and availability of renewable resources, including water, energy resources and biota, and the importance of monitoring and modelling to manage these resources at local, regional and global scales. Students learn about ecosystem services and how natural and anthropogenic changes of the biosphere, hydrosphere, atmosphere and geosphere influence resource availability and sustainable management.

Students investigate the ways in which science contributes to contemporary debate regarding local, regional and international resource use and action for sustainability, and recognise the limitations of science in providing definitive answers in different contexts.

Students use science inquiry skills to collect, analyse and interpret data relating to the formation, extraction, and processing of resources. They critically analyse the range of factors that determine management of renewable and non-renewable resources.

Earth & Environmental Science ATAR
Year 11

Unit 3: Earth hazards and climate change

Earth hazards occur over a range of timescales and have significant impacts on Earth systems across a wide range of spatial scales. Investigation of naturally occurring and anthropogenic Earth hazards enables prediction of their impacts, and the development of management and mitigation strategies. In this unit, students examine the causes and effects of naturally occurring Earth hazards, including volcanic eruptions, earthquakes and tsunamis. The composition of magma is examined to predict the degree of volcanic explosivity and hence the risk of hazard that an eruption could inflict on the environment. This unit focuses on the timescales at which the effects of natural and human-induced change are apparent and the ways in which scientific data are used to provide strategic direction for the mitigation of Earth hazards and environmental management decisions.

Students review the scientific evidence for climate change models, including the examination of evidence from the geological record, oceanic and atmospheric data, and explore different interpretations of the same evidence. They consider the reliability of these models for predicting climate change, and the implications of future climate change events, including changing weather patterns, globally and in Australia, for example, changes in flooding patterns or aridity, and changes to vegetation distribution, river structure and groundwater recharge.

They investigate the ways in which science contributes to contemporary debate regarding local, regional and international management of Earth hazards, evaluation of risk and action for sustainability, and recognise the limitations of science in providing definitive answers in different contexts.

Students use inquiry skills to collect, analyse and interpret data relating to the cause and impact of Earth hazards. They critically analyse the range of factors that influence the magnitude, frequency, intensity and management of Earth hazards at local, regional and global levels.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Investigation | 20% |
| Extended Response | 10% |
| Test | 20% |
| Examination | 50% |

Human Biology ATAR

The Human Biology ATAR course gives students a chance to explore what it is to be human—how the human body works, the origins of human variation, inheritance in humans, the evolution of the human species and population genetics. Through their investigations, students research new discoveries that increase our understanding of human dysfunction, treatments and preventative measures.

Practical tasks are an integral part of this course and develop a range of laboratory skills; for example, biotechnology techniques. Students learn to evaluate risks and benefits to make informed decisions about lifestyle and health topics, such as diet, alternative medical treatments, use of chemical substances and the manipulation of fertility.

Human Biology ATAR

Year 11

Unit 1: The functioning human body

This unit looks at how human structure and function supports cellular metabolism and how lifestyle choices affect body functioning.

Cells are the basic structural and functional unit of the human body. Cells contain structures that carry out a range of functions related to metabolism, including anabolic and catabolic reactions. Materials are exchanged in a variety of ways within and between the internal and external environment to supply inputs and remove outputs of metabolism. Metabolic activity requires the presence of enzymes to meet the needs of cells and the whole body. The respiratory, circulatory, digestive and excretory systems control the exchange and transport of materials in support of metabolism, particularly cellular respiration. The structure and function of the musculo-skeletal system provides for human movement and balance as the result of the coordinated interaction of the many components for obtaining the necessary requirements for life.

Students investigate questions about problems associated with factors affecting metabolism. They trial different methods of collecting data, use simple calculations to analyse data and become aware of the implications of bias and experimental error in the interpretation of results. They are encouraged to use ICT to interpret and communicate their findings in a variety of ways.

Human Biology ATAR

Year 11

Unit 2: Molecular Interactions and reactions

This unit provides opportunities to explore, in more depth, the mechanisms of transmission of genetic materials to the next generation, the role of males and females in reproduction, and how interactions between genetics and the environment influence early development. The cellular mechanisms for gamete production and zygote formation contribute to human diversity. Meiosis and fertilisation are important in producing new genetic combinations.

The transfer of genetic information from parents to offspring involves the replication of deoxyribonucleic acid (DNA), meiosis and fertilisation. The reproductive systems of males and females are differentially specialised to support their roles in reproduction, including gamete production and facilitation of fertilisation. The female reproductive system also supports pregnancy and birth. Reproductive technologies can influence and control the reproductive ability in males and females. Cell division and cell differentiation play a role in the changes that occur between the time of union of male and female gametes and birth. Disruptions to the early development stages can be caused by genetic and environmental factors: inheritance can be predicted using established genetic principles. The testing of embryos, resulting from assisted reproductive technologies, is conducted for embryo selection, and the detection of genetic disease. The application of technological advances and medical knowledge has consequences for individuals and raises issues associated with human reproduction.

Students investigate an aspect of a given problem and trial techniques to collect a variety of quantitative and qualitative data. They apply simple mathematical manipulations to quantitative data, present it appropriately, and discuss sources and implications of experimental error. They also consider the limitations of their procedures and explore the ramifications of results that support or disprove their hypothesis. They are encouraged to use ICT in the analysis and interpretation of their data and presentation of their findings.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Science Inquiry | 20% |
| Practical | |
| Investigation | |
| Extended Response | 15% |
| Test | 25% |
| Examination | 40% |

Unit 3: Homeostasis and disease

This unit explores the nervous and endocrine systems and the mechanisms that help maintain the systems of the body to function within normal range, and the body’s immune responses to invading pathogens.

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.

Different body systems have mechanisms, including physical and chemical barriers that protect the body against invasion by pathogens. The non-specific actions of the body can be aided by the use of antibiotics and antiviral drugs to counter the invasion or reduce the effect of the pathogen. Specific resistance mechanisms involve the recognition of invading pathogens and produce long-lasting immunity. Vaccinations can result in immunity to infection by exposure to attenuated versions of the pathogens.

Physics ATAR

In the Physics ATAR course students will learn how energy and energy transformations can shape the environment from the small scale, in quantum leaps inside an atom’s electron cloud, through the human scale, in vehicles and the human body, to the large scale, in interactions between galaxies. Students have opportunities to develop their investigative skills and use analytical thinking to explain and predict physical phenomena. Students plan and conduct investigations to answer a range of questions, collect and interpret data and observations, and communicate their findings in an appropriate format. Problem-solving and using evidence to make and justify conclusions are transferable skills that are developed in this course.

Unit 4: Human variation and evolution

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.

A number of trends appear in the evolution of hominids and these may be traced using phylogenetic trees. The selection pressures on humans have changed due to the control humans have over the environment and survival.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|--------------------|-----------|
| Science Inquiry | 10% |
| Practical | |
| Investigation | |
| Extended Response | 15% |
| Test | 25% |
| Examination | 50% |

Unit 1

An understanding of heating processes, nuclear reactions and electricity is essential to appreciate how global energy needs are met. In this unit, students explore the ways physics is used to describe, explain and predict the energy transfers and transformations that are pivotal to modern industrial societies. Students investigate heating processes, apply the nuclear model of the atom to investigate radioactivity, and learn how nuclear reactions convert mass into energy. They examine the movement of electrical charge in circuits and use this to analyse, explain and predict electrical phenomena.

Contexts that can be investigated in this unit include technologies related to nuclear, thermal, or geothermal energy, the greenhouse effect,

electrical energy production, large-scale power systems, radiopharmaceuticals, and electricity in the home; and related areas of science, such as nuclear fusion in stars and the Big Bang theory.

Through the investigation of appropriate contexts, students understand how applying scientific knowledge to the challenge of meeting world energy needs requires the international cooperation of multidisciplinary teams and relies on advances in ICT and other technologies. They explore how science knowledge is used to offer valid explanations and reliable predictions, and the ways in which it interacts with social, economic, cultural and ethical factors.

Physics ATAR

Year 11

Unit 2

Students develop an understanding of motion and waves which can be used to describe, explain and predict a wide range of phenomena. Students describe linear motion in terms of position and time data, and examine the relationships between force, momentum and energy for interactions in one dimension.

Students investigate common wave phenomena, including waves on springs, and water, sound and earthquake waves.

Contexts that can be investigated in this unit include technologies such as accelerometers, motion detectors, global positioning systems (GPS), energy conversion buoys, music, hearing aids, echo locators, and related areas of science and engineering, such as sports science, car and road safety, acoustic design, noise pollution, seismology, bridge and building design.

Through the investigation of appropriate contexts, students explore how international collaboration, evidence from a range of disciplines and many individuals, and the development of ICT and other technologies have contributed to developing understanding of motion and waves and associated technologies. They investigate how scientific knowledge is used to offer valid explanations and reliable predictions, and the ways in which it interacts with social, economic, cultural and ethical factors.

Assessment (Unit 1&2)

| Type of Assessment | Weighting |
|-------------------------|-----------|
| Science Inquiry | 30% |
| Experiment | |
| Investigation | |
| Evaluation and analysis | |
| Test | 30% |
| Examination | 40% |

Physics ATAR

Year 12

Unit 3

Field theories have enabled physicists to explain a vast array of natural phenomena and have contributed to the development of technologies that have changed the world, including electrical power generation and distribution systems, artificial satellites and modern communication systems. In this unit, students develop a deeper understanding of motion and its causes by using Newton's Laws of Motion and the gravitational field model to analyse motion on inclined planes, the motion of projectiles, and satellite motion. They investigate electromagnetic interactions and apply this knowledge to understand the operation of direct current motors, direct current (DC) and alternating current (AC) generators, transformers, and AC power distribution systems. Students also investigate the production of electromagnetic waves.

Contexts that can be investigated in this unit include technologies, such as artificial satellites, navigation devices, large-scale power generation and distribution, motors and generators, electric cars, synchrotron science, medical imaging, and related areas of science and engineering, such as sports science, amusement parks, ballistics and forensics.

Through the investigation of appropriate contexts, students explore the ways in which models and theories related to gravity and electromagnetism, and associated technologies, have developed over time and through interactions with social, economic, cultural and ethical considerations. They investigate the ways in which science contributes to contemporary debate about local, regional and international issues, including evaluation of risk and action for sustainability, and recognise the limitations of science to provide definitive answers in different contexts.

Physics ATAR

Year 12

Unit 4

The development of quantum theory and the theory of relativity fundamentally changed our understanding of how nature operates and led to the development of a wide range of new technologies, including technologies that revolutionised the storage, processing and communication of information. In this unit, students examine observations of relative motion, light and matter that could not be explained by existing theories, and investigate how the shortcomings of existing theories led to the development of the special theory of relativity and the quantum theory of light and matter. Students evaluate the contribution of the quantum theory of light to the development of the quantum theory of the atom, and examine the Standard Model of particle physics and the Big Bang theory.

Contexts that can be investigated in this unit include technologies, such as photo radar, fibre optics, DVDs, GPS navigation, lasers, modern electric lighting, medical imaging, nanotechnology, semiconductors, quantum computers and particle accelerators, and astronomical telescopes such as the Square Kilometre Array. Other contexts may include black holes, dark matter, and related areas of science, such as space travel and the digital revolution.

Through the investigation of appropriate contexts, students explore the ways in which these models and theories, and associated technologies, have developed over time and through interactions with social, economic, cultural and ethical considerations. They investigate the ways in which science contributes to contemporary debate about local, regional and international issues, including evaluation of risk and action for sustainability, and they recognise the limitations of science to provide definitive answers in different contexts.

Assessment (Unit 3&4)

| Type of Assessment | Weighting |
|-------------------------|-----------|
| Science Inquiry | 20% |
| Experiment | |
| Investigation | |
| Evaluation and analysis | |
| Test | 30% |
| Examination | 50% |

Workplace Learning

Workplace Learning Endorsed Program

Students enrolled in a non-university program of study will be expected to enrol in the Authority Developed Workplace Learning Endorsed Program (ADWLEP) where they will complete 110 hours of workplace learning across the year.

Workplace Learning is an Authority-developed endorsed program that is managed by individual schools. To complete this endorsed program, a student works in one or more real workplace/s to develop a set of transferable workplace skills. The student must record the number of hours completed and the tasks undertaken in the

workplace in the Authority's Workplace Learning Logbook. The student must also provide evidence of their knowledge and understanding of the workplace skills by completing the Authority's Workplace Learning Skills Journal after each 55 hours completed in the workplace.

ADWLEP provides students with an opportunity to demonstrate, and develop increasing competence in, the core skills for work, often referred to as generic, transferable or employability skills. A student learns to apply and adapt the workplace skills that are necessary to understand and carry out different types of work, and that play a key role in lifelong learning.

VET in Schools

What is VET in Schools?

VET in Schools enables senior secondary school students to develop skills and knowledge for employment or further study. VET studies can be undertaken at the same time as study towards a Western Australian Certificate of Education (WACE). Successful completion of a VET in Schools program enables students to gain nationally recognised qualifications. VET in Schools programs are delivered in a variety of ways across Western Australia.

Delivery of VET Programs

Schools registered as training organisations (RTOs) may deliver VET programs directly to students. Alternatively, schools may engage external RTOs, including TAFE institutes, to deliver VET programs either directly or through auspicing arrangements.

How can my son access a VET program?

At Mazenod we offer a variety of courses internally and encourage students to access courses through external providers.

Access of external courses means your son will be at an external learning institution for at least one (1) day a week. These courses have a duration of between one (1) and two (2) years depending on the number of hours/days required for completion. Work experience may also be required.

Pre-Apprenticeships in Schools (PAiS)

If you're in year 11 or 12, the PAiS program involves attending school, completing Certificate II Pre-Apprenticeship training at either South or North Metropolitan TAFE, and completing work placements with at least two employers.

You will graduate Year 12 with your WACE, a pre-apprenticeship in your chosen field and be a step ahead of others looking for apprenticeships. There is no doubt employers look favourably at the candidate who already has a proven track record of study, demonstrated the capacity to apply themselves to a formal course and can understand the practices and terminology associated with the trade in question.

School-based traineeships (SBT)

School-based traineeships are certificate II and III programs approved by industry to kick-start your career. They give school students who are generally at least 15 years of age the opportunity to start a traineeship as part of their school program. Traineeships are usually in a non-trade area.

Conditions of Enrolment

Requests to enrol in traineeships, VET programs, off-campus TAFE courses, apprenticeship link programs or any other external training program will be considered on an individual basis and will be supported where it is deemed to be in the best interests of the student.

While Mazenod College supports and promotes full time secondary studies coupled with workplace learning for students enrolled in a General program of study, all applications are assessed on an individual basis.

Students will be given permission to enrol in an external program based on the following conditions:

- Students will enrol in a full program of study (i.e. 6 subjects unless specifically negotiated with the Dean of Students).
- It is the student's responsibility to obtain the work missed while away from the College and to use homework time to keep up with the theoretical components of each subject.
- It is the student's responsibility to complete the assessment schedule for each subject at the same time as the other students.
- The College requests that students only enrol in courses where there is only a one day per week commitment.
- TAFE have strict attendance requirements that must be met for students to complete the relevant course competencies and to receive credit for the VET certificate.
- TAFE attendance takes precedence over work placement clashes therefore it is the

student's responsibility to keep his employer informed and make arrangements to ensure that he completes the required 55 hours for each placement.

- Where Mazenod College commitments and representative opportunities clash with attendance at TAFE, the student must consult the Senior School Academic Advisor.
- Parents (particularly boarding families) should note TAFE attendance requirements on days that are pupil free days at Mazenod.
- Examination requirements (ATAR subjects) and Year 12 Externally Set Tasks take precedence over work placements and TAFE attendance.
- Students must act in a responsible manner while engaged with the external provider remembering that he is representing Mazenod College.
- Students must refrain from any behaviour prejudicial to the values of the College.

Examples of Recent Student Enrolment

Certificate II

Electrotechnology;
Data and Voice Communication;
Aero skills,
Construction,
Plumbing,
Screen and Media,
Hospitality,
Electronics,
Automotive Servicing,
Fashion Design

Certificate III:

Information, Digital Media & Technology;
Education Support;
Early Childhood Education and Care;
Retail

Certificate IV:

Business,
Education Support.



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