Year 11 and 12 Academic Information Handbook 2018

CONTENTS

GENERAL INFORMATION

The information contained in this handbook is provided to you to assist in making important decisions about your future education and possible career choices and to assist you and your parents / guardians to decide which Courses will best suit your abilities, interests and future career aspirations.

It is important that you seek advice before arriving at this decision. Discussions with your parents / guardians are vital, as parents / guardians support will be needed no matter what pathway is chosen.

Educational opportunities are provided for all students at Tranby College to be successful at their chosen pathways, and to strive for excellence whether University, TAFE, Apprenticeships / Traineeships or employment bound.

The most fundamental decision for which the College shares responsibility with parents / guardians and students is to choose programmes of study that will lead students to success. To make these choices it is necessary to have a thorough understanding of the following:

- The strong connection that exists between Years 11 and 12 and the destinations that students will access after they have left school (post-school options). This will be determined by the ability and determination of the student, as well as their interests and work ethic.
- The divergence between the selection criteria for the main post-school destinations. It is possible for a student to miss out on both TAFE and University through poor Course selection.
- The increasing number of pathways between TAFE and University. Called "Advanced Standing", students and parents need to contact the individual institutions to determine these specifically.
- The rapidly changing employment market in terms of skills required, new jobs coming into existence and a trend to part-time and other work options.

Decision making should include the following questions:

- What career / course would I like to pursue?
- What are my main options after leaving school?
- What are the entrance criteria needed to get there?
- What background do I need to meet these entrance criteria?

Entrance Requirements and Recommended Achievement Standards for Year 11 and 12 Courses

Entrance Requirements and Recommended Achievement Standards refer to the standard of academic performance that a student needs to achieve, to demonstrate their aptitude and/or suitability for a particular course. Entrance Requirements and Recommended Achievement Standards for specific courses are set by the Deans of Learning Area and are determined through the analysis of historical data, case studies and consideration of the complexity of course content.

Students who find themselves doing Year 11 and 12 courses that are too difficult for them may develop negative attitudes towards the course, and often towards their whole programme of study. Consequently, they find school a frustrating and unrewarding experience.

The concept of Entrance Requirements and Recommended Achievement Standards is common in educational contexts, including University, TAFE and Private Registered Training Organisations enrolments. Stating Entry Requirements and Recommended Achievement Standards for Year 11 and 12 Courses is regarded as standard practice in Western Australian Schools.

The purpose of Entrance Requirements and Recommended Achievement Standards are to clearly indicate the rigor and academic standards of each course. They serve to guide students and parents in the course selection process, so that students choose courses that are appropriate for their academic abilities. The Entrance Requirements and Recommended Achievement Standards are provided to support students to be successful in Year 11 and 12 courses.

Sometimes, a student may wish to enrol in a particular course, but fail to meet the Entrance Requirement or Recommended Achievement Standard to enrol in that course. **Entry to a course on a "trial" basis is NOT a viable option.** The recommendation for a student who cannot gain entry to a particular course in Year 11 or 12 based on their performance in Year 10 or 11, is to enrol in a related course for which he or she has achieved the Entrance Requirements Recommended Achievement Standards.

A successful course selection is important. Changes made after the school year has begun are not a good idea because it can be very difficult to catch up on missed work and assessments. A student who changes courses, must complete the whole Assessment Programme for the course they enrol in.

Entrance Requirements and Recommended Achievement Standards for all courses have been distributed to students and can also be found in this section of the College Website.

Western Australian Certificate of Education (WACE)

The WACE is a certificate issued by the School Curriculum and Standards Authority (SCSA) that demonstrates significant achievement over Years 11 and 12. Achievement of the WACE acknowledges that at the end of your compulsory schooling you have achieved or exceeded the required minimum standards in an educational programme that has suitable breadth and depth.

To achieve a WACE a student must satisfy the following:

General Requirements

- Demonstrate a minimum standard of literacy and 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 course units or equivalents as detailed below
- Complete four or more Year 12 ATAR courses or complete a Certificate II or higher

Breadth and Depth

Students will complete a minimum of 20 course units or the equivalent. This requirement must include at least:

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

The table below indicates the Courses that will be offered at Tranby College in Year 11 and / or 12 in 2018 and the list to which each belongs:

List A (arts / languages / social sciences)	List B (mathematics / science / technology)
Ancient History	Biology
Business Management and Enterprise	Chemistry
Dance	Computer Science
Drama	Design
English	Engineering Studies
Geography	Human Biology
Indonesian	Integrated Science
Literature	Materials Design & Technology - Wood
Media Production and Analysis	Mathematics
Modern History	Mathematics Specialist
Music	Physical Education Studies
Politics and Law	Physics
Visual Art	Psychology

Achievement Standard

Students will be required to achieve 14 C grades (or equivalents, see below) in Year 11 and Year 12 units, including at least six C grades in Year 12 (or equivalents).

Unit equivalence can be obtained through Vocational Education and Training (VET) programmes and/or endorsed programmes. The maximum unit equivalence available through these programmes is eight units – four Year 11 units and four Year 12 units. Students may obtain unit equivalence as follows:

- Up to eight unit equivalents through completion of VET programmes, or
- Up to four unit equivalents through completion of endorsed programmes, or
- Up to eight unit equivalents through a combination of VET and endorsed programmes, but with endorsed programmes contributing no more than four unit equivalents.

The amount of unit equivalence allocated to VET and endorsed programmes is as follows:

- VET qualifications
  - Certificate I is equivalent to two Year 11 units
  - Certificate II is equivalent to two Year 11 and two Year 12 units
  - Certificate III or higher is equivalent to two Year 11 and four Year 12 units
- Endorsed programmes – unit equivalence is identified on the School Curriculum and Standards Authority's approved list of endorsed programmes.

There are five types of courses developed by the School Curriculum and Standards Authority:

1. ATAR course units for students who are aiming to enrol in a university course direct from school. These courses will be examined by the Authority and contribute to the achievement of an Australian Tertiary Admissions Rank (ATAR).
2. General course units for students aiming to enter further training or the workforce directly from school. These courses will not be examined by the Authority.
3. Foundation course units for those who need additional help in demonstrating the minimum standard of literacy and numeracy.
4. Vocational Education and Training industry specific (VETis) courses for students who are aiming to enter further training or the workforce directly from school. VETis courses have been developed in close consultation with WA Industry Training Councils and include a full, nationally recognised qualification and mandatory industry-related workplace learning
5. Preliminary course units for those who may need modifications to the curriculum to meet their special needs. Preliminary courses do not contribute to the achievement of a WACE.

There are two types of programmes which can contribute to the WACE:

1. VET programmes
2. Endorsed programmes

You can mix and match these options to provide yourself with the best platform to meet the requirements to achieve your WACE – and for life beyond school.

Each course has four units – Unit 1 and Unit 2 (Year 11 units) and Unit 3 and Unit 4 (Year 12 units). Unit 1 and Unit 2 **can** be studied as a pair, Unit 3 and Unit 4 **must** be studied as a pair.

Permission for a student to change courses is a school based decision; however, for a student to achieve course unit credits, a change can only be made early in Year 12, before the cut-off date set by the Authority; or in Year 11 after the completion of Unit 1, or at the end of Year 11 after the completion of Unit 2.

The Western Australian Statement of Student Achievement (WASSA)

A WASSA is issued to all Year 12 students who complete any study that contributes towards a WACE. It lists all courses and programmes, students have completed in Year 11 and 12.

Literacy and Numeracy

There are two parts to demonstrating competence in literacy and numeracy. Firstly, you are required to complete two Year 11 English units and a pair of Year 12 English units.

Secondly, you must demonstrate that you 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.

You can demonstrate the minimum standard:

- Through the Authority's Online Literacy and Numeracy Assessment (OLNA), or
- If you demonstrate Band 8 or higher in your Year 9 NAPLAN, Reading, Writing and Numeracy tests.

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

There are three assessment components:

- one 60-minute, 60-item multiple-choice of Reading
- one 60-minute, 60-item multiple-choice of Numeracy, and
- one 60-minute, extended response in Writing of between 300 and 600 words.

If you have a language background other than English and arrived from overseas in the past year you may be able to delay sitting the OLNA.

Disability provisions are available for students with significant conditions which may severely limit their capacity to participate in the OLNA. These students, after discussions with parents/carers and the school, may choose not to sit the OLNA. However, this would mean that these students could not achieve the WACE.

VET programmes

VET is recognised across Australia. VET programmes can give you the opportunity to gain core skills for work and, in some cases, complete training in industry through workplace learning.

If your educational programme does not include four ATAR courses in Year 12, you will need to complete a Certificate II qualification or higher to achieve your WACE.

You can also begin training for your career while still at school by undertaking a VET qualification. Among the range of VET programmes on offer are school-based apprenticeships and traineeships.

As with the WACE courses, the VET programmes available to students do vary between schools.

VET can contribute up to eight of the 20 units you need to achieve your WACE.

Endorsed programmes

Endorsed programmes address areas of learning not covered by WACE courses. Examples include workplace learning, Cadets WA, performance in school productions and independently administered examinations in music, speech and drama.

These programmes can be delivered in a variety of settings by schools, community organisations, universities, training organisations and workplaces.

Endorsed programmes may replace up to two Year 11 course units and two Year 12 course units you need to achieve your WACE.

School Assessment

Grades and school marks

To be assigned a grade in a WACE unit pair, you must have had the opportunity to complete the school's education and assessment programmes for the unit, unless there are exceptional circumstances that are acceptable to the school.

Teachers of Year 11 and Year 12 students submit results to the Authority at the end of the school year based on assessments such as classroom tests, in-class work, assignments, practical work and examinations.

You will receive a grade A, B, C, D or E for each unit pair you have completed. The notation of 'U' can be used for non-final year students who, for reasons acceptable to the school, do not complete the assessment programme. Only students who will be returning the following year to complete the assessment programme can be awarded a 'U' notation.

You will receive a school mark in the range 0 to 100 for each unit pair of an ATAR or General course.

In Year 11 there may be occasions when you need to change your course enrolment at the completion of Semester 1 (e.g. you may nominate to transfer from an ATAR course to a General course). Only in these cases will you receive a grade and mark for each individual unit you have completed.

Endorsed programmes are not comprised of units, but a completed endorsed programme is allocated one, two, three or four unit equivalents.

Adjustment of grades and school marks

During the school year, the Authority uses several procedures to ensure that the grades awarded by different schools are comparable.

Grades assigned by the school are based on the Authority's grade descriptions for each course. The grades you receive from the school are provisional until confirmed by the Authority. The school is required to advise you in writing if any changes are made to your provisional grades during the approval process. However, the Authority adjusts the grades assigned by the school only in exceptional circumstances.

Externally set tasks (EST)

An EST is a common task that all students enrolled in a General course and a Foundation course will do in Semester 1 of Year 12. The task is set by the Authority, completed by students under test conditions, and is worth 15 per cent of the final mark for that pair of units. ESTs are marked by the teacher at the school using a marking key provided by the Authority.

Authenticity of work

It is imperative that all work submitted for school assessments is your own work. Any material that is included in your work that is not your own must be acknowledged appropriately.

The school's assessment policy will outline the penalties for submitting another's work as your own. Work which could be considered as not your own may include, but is not limited to:

- copying someone's work in part or in whole, and presenting is as your own
- buying, stealing or borrowing another person's work and presenting it as your own
- paying someone to write or prepare work
- submitting work to which another person (such as a parent, tutor or subject expert) has contributed substantially

- using material directly from sources such as books, journals or the internet without reference to the source
- building on the ideas of another person or the workmanship of others in practical tasks (performance, production or portfolio) without appropriate acknowledgement
- using the words, ideas, designs or the workmanship of others in practical tasks (performance, production or portfolio) without appropriate acknowledgement
- using non-approved materials and/or equipment during an assessment task or examination
- assisting another student to engage in an activity that will enable that student to have an unfair advantage over other students

All the work you submit as part of the WACE practical component (ATAR and General Units 3 and 4), must also be your own work. Any material included in your work that is not your own must be acknowledged appropriately.

Review of school assessments

Schools must inform students in writing of their grades by a date specified annually by the authority (usually in late October). If you believe that your grade and/or school mark is incorrect, you should make a request in writing to the school for a review of the result.

ATAR examinations

This section is relevant to students who intend to enrol in ATAR Units 3 and 4 (typically Year 12 students).

ATAR examinations

The Authority sets, administers and marks ATAR examinations for ATAR Units 3 and 4 in all courses.

Each ATAR examination assesses the specific content, understandings, knowledge and skills described in the syllabus for the pair of units studied. Each syllabus is available on the relevant course page of the Authority website.

All ATAR examinations have written papers and some also include practical, oral, performance or portfolio examinations. The practical ATAR examinations are held in the first week of the Term 3 school holidays, on weekends and the Queen's Birthday public holiday and during the second and third weeks of term 4. Written examinations will commence on the first Monday in November.

ATAR examinations provide students and the wider community with confidence about the standards achieved at the end of Year 12. They also make it possible to compare the achievement of students, regardless of the school attended.

Enrolling in examinations

When you enrol in a Year 12 ATAR course, you will be automatically enrolled to sit the ATAR examination in that course.

Special examination arrangements

Special arrangements may be made if you have permanent or temporary disabilities that may disadvantage you in any examination situation. If your disability prevents you having reasonable

access to an examination, the school must submit an application on your behalf. Information about how to do this will be provided to the school at the start of Year 12.

Certification

Folio of achievement

At the end of senior secondary schooling, all students who have satisfactorily completed a WACE course unit, VET certificate or endorsed programme will receive a folio of achievement. This folio may include one or more of the following:

- WACE
- WASSA
- WACE course report (ATAR courses only)
- Award certificates achieved

The WACE indicates that you have satisfied the requirements for WACE achievement.

The WASSA formally records, where appropriate:

- the meeting of WACE requirements or a statement of literacy and numeracy
- exhibitions and awards granted
- WACE combined mark
- grades and marks achieved in course units
- VET qualifications
- endorsed programmes successfully completed
- number of community service hours completed
- results in WACE courses from previous years.

The WACE ATAR course report (ATAR courses only) records:

- school grades
- school marks
- raw examination marks
- standardised examination marks
- WACE combined mark
- State-wide distribution of combined marks
- The number of candidates receiving a combined mark in the pair of units.

A course that has a practical examination component will have the written and practical marks reported separately.

CAREER INFORMATION

It is essential for students to plan ahead by seeking out career guidance and information that will give them an understanding of the relationship between their school programme and their future role in society. By doing so, students gain a sense of direction regarding long-term plans.

Following, are several resources from which career information and assistance may be obtained:

Dean of Careers and VET

The College Dean of Careers and VET, Mr King, provides a personalised information and counselling service on employment, training and education opportunities and assistance with Course Selection.

Publications

A number of publications are produced each year to assist students with career choices and course / programme selections. These include:

Job Guide
University Prospectuses;
TAFE Website / Department of Training
TISC Guide

Teachers and Deans of Learning Area

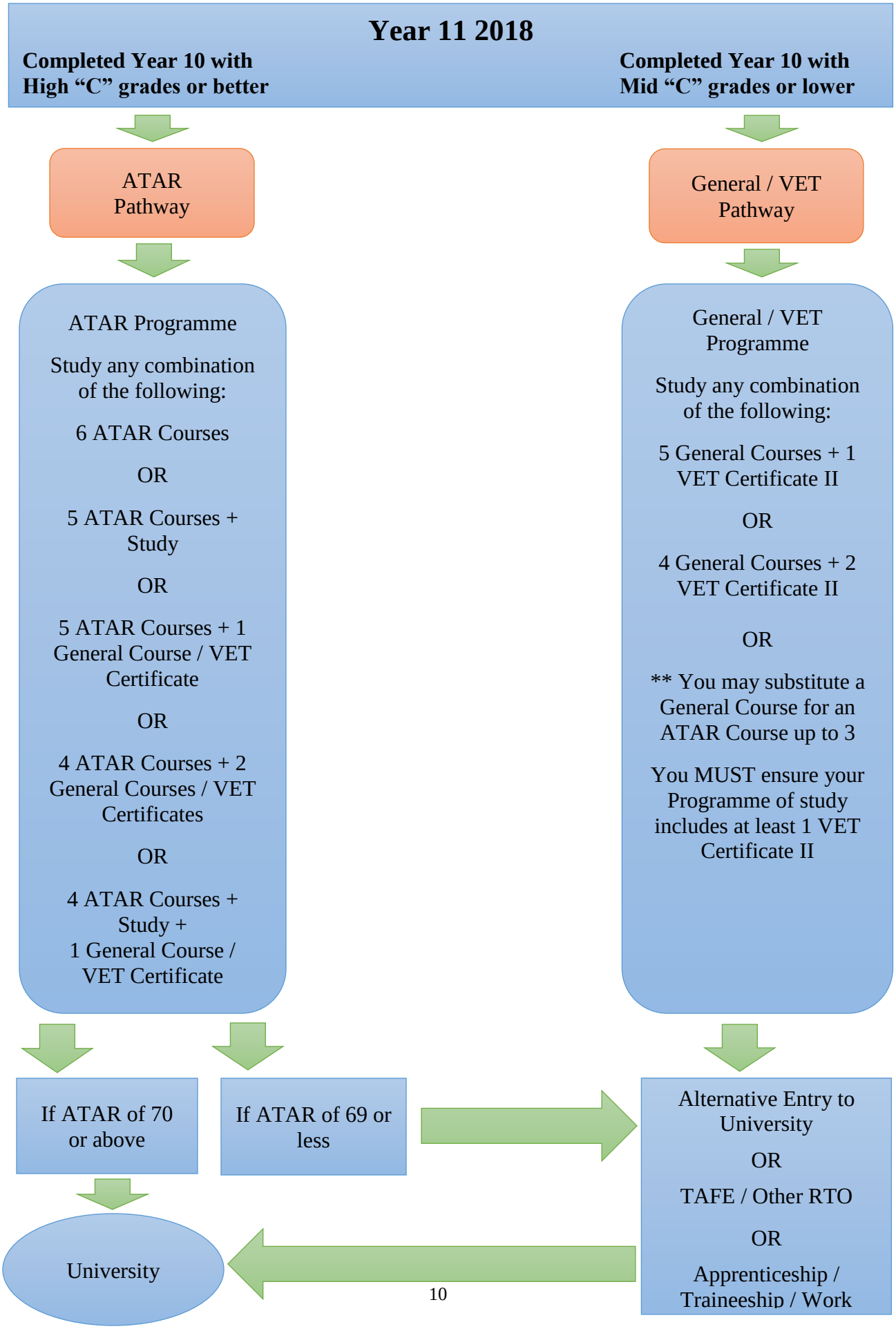
Your subject / course teachers and the Deans of Learning Area are the best people to talk to about your suitability for particular courses / endorsed programmes in Year 11. It is highly recommended that when considering your programme of study for Year 11, you discuss with your current subject or course teachers and the relevant Dean of Learning Area your suitability for undertaking the particular course / endorsed programme you are interested in.

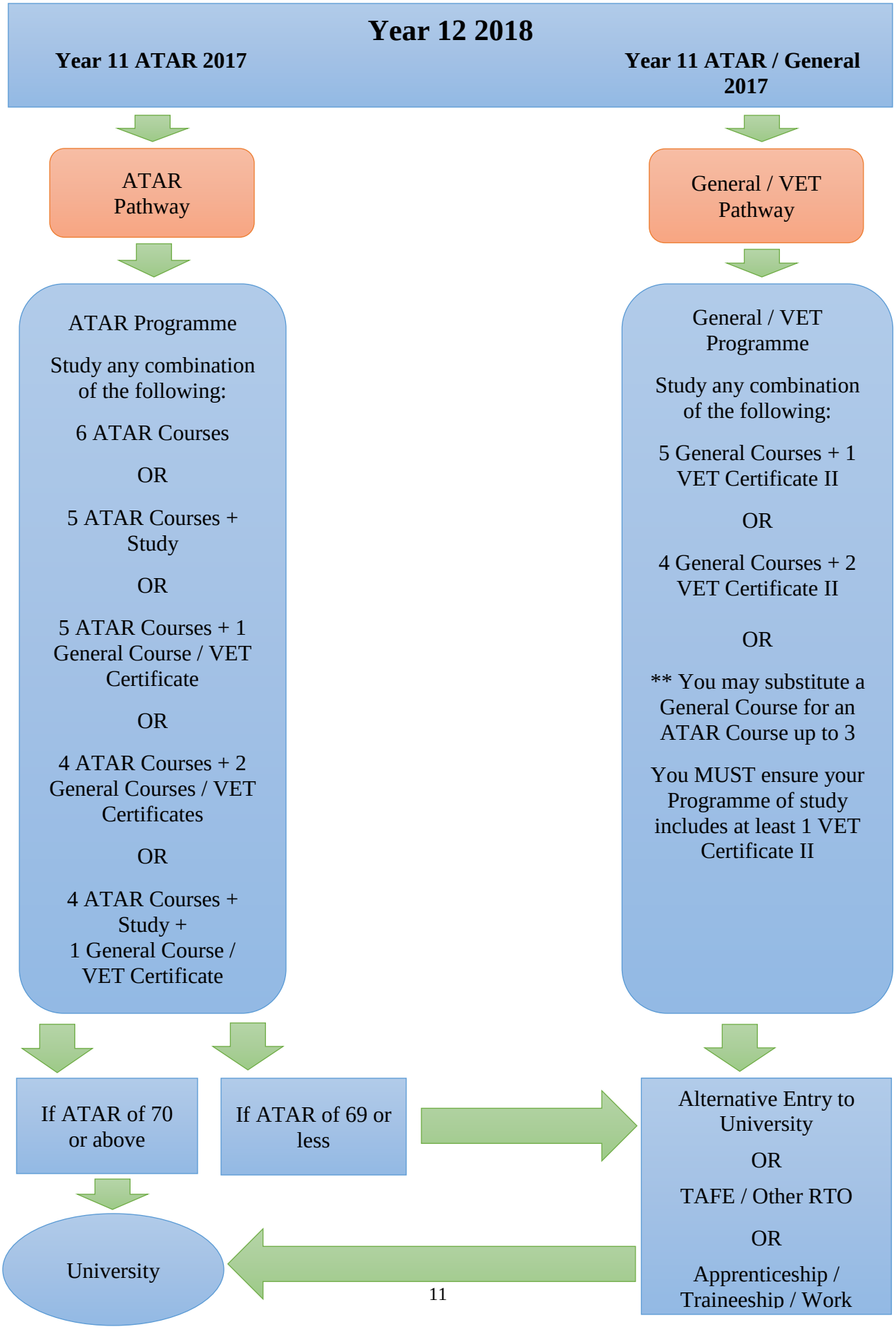
Friends and Relatives

It is important for students to talk to a number of people – parents, relatives, friends, teachers, neighbours or others who are actually working in their area of interest, in order to obtain as much information as possible.

Useful Internet Sites

A list of Internet Sites that may be of assistance to students and parents is available from Mr King. Many other Internet Sites providing information on specific occupations and other relevant information can be found by simply undertaking a Google search.


Year 11 2018
Completed Year 10 with High "C" grades or better
Completed Year 10 with Mid "C" grades or lower
ATAR Pathway
General / VET Pathway
ATAR Programme
Study any combination of the following:
6 ATAR Courses
OR
5 ATAR Courses + Study
OR
5 ATAR Courses + 1 General Course / VET Certificate
OR
4 ATAR Courses + 2 General Courses / VET Certificates
OR
4 ATAR Courses + Study + 1 General Course / VET Certificate
General / VET Programme
Study any combination of the following:
5 General Courses + 1 VET Certificate II
OR
4 General Courses + 2 VET Certificate II
OR
** You may substitute a General Course for an ATAR Course up to 3
You MUST ensure your Programme of study includes at least 1 VET Certificate II
If ATAR of 70 or above
If ATAR of 69 or less
Alternative Entry to University
OR
TAFE / Other RTO
OR
Apprenticeship / Traineeship / Work
University


Year 12 2018
Year 11 ATAR 2017
Year 11 ATAR / General 2017
ATAR Pathway
General / VET Pathway
ATAR Programme
Study any combination of the following:
6 ATAR Courses
OR
5 ATAR Courses + Study
OR
5 ATAR Courses + 1 General Course / VET Certificate
OR
4 ATAR Courses + 2 General Courses / VET Certificates
OR
4 ATAR Courses + Study + 1 General Course / VET Certificate
General / VET Programme
Study any combination of the following:
5 General Courses + 1 VET Certificate II
OR
4 General Courses + 2 VET Certificate II
OR
** You may substitute a General Course for an ATAR Course up to 3
You MUST ensure your Programme of study includes at least 1 VET Certificate II
If ATAR of 70 or above
If ATAR of 69 or less
Alternative Entry to University
OR
TAFE / Other RTO
OR
Apprenticeship / Traineeship / Work
University

ADMISSION TO TERTIARY STUDIES

REQUIREMENTS FOR ADMISSION TO UNIVERSITY

Public Universities

There are four public universities and one private university in Western Australia. Entry to the public universities is coordinated by TISC. Applications are made in Term 3 in Year 12. The public universities are:

- Curtin University of Technology
- Edith Cowan University
- Murdoch University
- The University of Western Australia

The universities are now located on several sites in metropolitan and country centres and offer a different range of courses at each centre. Each public university has a wide range of courses; some specific to one university, and some offered by two or more universities.

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

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

1. Western Australian Certificate of Education (WACE)

It is essential for you to satisfy the requirements of the WACE to enter all four universities unless you are an applicant from a non-standard WA school.

2. Competence in English

The competence in English requirement will normally be met by a scaled mark of at least 50 in English or Literature in Year 12.

3. Conditions for the determination of an ATAR (Australian Tertiary Admission Rank)

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 derived from the Tertiary Entrance Aggregate (TEA). The Tertiary Entrance Aggregate (TEA) will be calculated by adding the best four scaled scores, subject to unacceptable combinations.

In calculating the scaled score for ATAR courses, equal weight is given to the final school score and the final examination score, except where courses are taken on a private basis.

For all Universities, you may accumulate scaled scores which contribute to your ATAR over five consecutive years.

WACE Mathematics ATAR courses

Ten percent of the final scaled score/s in Mathematics Methods and Mathematics Specialist will be added to the Tertiary Entrance Aggregate, from which the Australian Tertiary Admission Rank (ATAR) is derived. The bonus does not apply to Mathematics Applications.

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 at Year 12 level is required, unless otherwise stated. Prerequisites may be satisfied by results from the current year or previous four years.

Comparability of achievement in courses

Admission to university is competitive, with most courses having more applicants than places. To process applicants fairly, they will be ranked using the ATAR based on their course achievements.

Unacceptable Course Combinations

You cannot use the following course combinations in calculating your ATAR. It may be possible to undertake both courses, but the result in only one may be used to calculate your ATAR.

English - ATAR with Literature - ATAR

Year 12 2017:	No more than two Mathematics scaled scores can be used in the calculation of an ATAR.
Year 12 2018:	Mathematics Methods with Mathematics Applications, Mathematics Specialist with Mathematics Applications.

Additional

Students aspiring for university entrance need to aim for an ATAR of 70 or higher. While this may encourage many students to select a university course, it should be remembered that:

- The academic rigour of the course still remains high.
- Failure rates for first year students at public universities need to be considered.
- Employment prospects for students graduating with lower grades are less promising.

The University of Notre Dame Australia

Notre Dame is a private, Catholic university, situated in the west end of Fremantle. Campuses are also located in Broome and Sydney.

Notre Dame has strong international connections with a number of foreign universities, notably its sister university, Notre Dame, in the United States of America.

Notre Dame considers the ATAR as one part of its overall assessment of a student's capabilities and potential to succeed at university. Students apply directly to Notre Dame, rather than using the TISC centralised system for students wishing to enter a public university. Notre Dame's admission policy extends beyond the use of a single ATAR to also include the following:

(a) the student's academic record in Years 11 & 12;
(b) the written judgement and recommendations of the student's school;
(c) personal and/or employment related references and
(d) a personal statement from the student indicating his or her goals and motivation for seeking admission to Notre Dame.

If the information gathered from the above indicates the student has the potential to succeed at Notre Dame, he or she is invited to an interview. The interview completes the admission procedure. The Admissions Office, following consideration of the academic ability and personal qualities of the applicant, may offer a place.

The University also offers a Tertiary Enabling Programme and Foundation Year Programme. Entry is available to students who have not accumulated an ATAR or did not achieve an ATAR sufficiently high enough to gain direct entry.

Alternate Entry to University

Universities have developed other forms of entry pathways such as University Preparation Courses, Portfolio Entry, Uni-Ready, Tertiary Enabling Programmes and entry via TAFE or Private Registered Training Organisation. Students who are considering these methods are encouraged to seek information from Mr King and to visit the individual University website for further, more detailed information.

TAFE

TAFE qualifications are developed in conjunction with industry to ensure graduates are ready for the workplace and have the knowledge and skills necessary for the job. There are qualifications at different levels, each requiring an increasing level of skill and knowledge. There are pathways and links between the qualifications to increase opportunities for further education and training.

TAFE can provide a student's pathway to further education. They can start their studies at TAFE, get credit for the work they have done and apply for university entrance. There is busy two-way traffic between TAFE and Universities. Many TAFE qualifications lead straight into University courses. In some cases, by successfully completing a TAFE qualification, the time it takes to get a University degree can be reduced.

TAFE and other Registered Training Providers offer six levels of qualifications:

Certificate I	Certificate IV
Certificate II	Diploma
Certificate III	Advanced Diploma

Almost all post-secondary qualifications in Australia have entrance requirements and selection criteria. Entrance requirements are not intended to be barriers to entry. Rather they are designed to ensure that all those who gain entry to a qualification have the competencies of skills and abilities required to effectively participate in the programme. Admission to most TAFE qualifications can be gained by satisfying these minimum requirements.

For a relatively small number of qualifications, it is necessary to apply selection criteria in addition to entrance requirements. The selection criteria are academic and other criteria such as work experience, industry involvement and employment status, and are used to rank eligible applicants competing for entry to a qualification. Selection criteria are applied only if there are more applicants than places available in a qualification. The essential difference between entrance requirements and selection criteria is that the former are used to determine an applicant's eligibility for entry to a qualification, whereas selection criteria are used to determine which of the eligible applicants will be offered places in a qualification.

The Department of Training and Workforce Development website outlines which qualifications only require applicants to address entrance requirements and those that require the applicant to address both minimum entrance requirements and selection criteria.

Entry to non-competitive courses

Applicants for non-competitive courses need to demonstrate minimum literacy and numeracy skills or AQF qualifications levels as below:

	School Leaver	Non-school Leaver	AQF
Certificate I	Nil	Nil	Nil
Certificate II	OLNA or NAPLAN 9 Band 8	C grades in Year 10 English and Maths or equivalent	Certificate I or Certificate II
Certificate III	OLNA or NAPLAN 9 Band 8	C grades in Year 10 English and Maths or equivalent	Certificate I or Certificate II
Certificate IV	C grades in Year 11 WACE General English and OLNA or NAPLAN 9 Band 8	C grades in year 11 English and Maths or equivalent.	Certificate II or Certificate III
Diploma or Advanced Diploma	Completion of WACE General or ATAR (minimum C Grades) or equivalent	Completion of WACE General or ATAR or equivalent (minimum C Grades)	Certificate III

Some courses may specify entrance requirements, such as maths or a folio. Check the course entrance requirements for details. Some courses require students to commence at a level specified in the training package. Check the training package or full-time studies guide for details.

Entry to competitive courses

Applicants for competitive courses need to demonstrate minimum literacy and numeracy skills or AQF qualification levels as indicated previously, and respond to selection criteria. Applicants who can demonstrate minimum literacy and numeracy skills will be assessed and ranked against the following selection criteria. Offers will be made to applicants with the highest total points scores.

Selection Criteria – Maximum 90 Points

Academic Achievement – maximum 60 points	Work History – maximum 30 points
Derived from the highest points from either: • secondary education results; or • completed AQF qualification. An overview of the points used to calculate a score for academic achievement is provided below in attachment A.	Credit for total hours worked at 0.003 points per hour: • employment • work experience • community services / volunteer work

Attachment A

Selection Criteria: Academic Achievement (maximum 60 points)

Academic achievement can be demonstrated through secondary education results or a completed AQF qualification. If documents for both secondary education and completed AQF qualifications are provided, points will be calculated for both and the higher points used to calculate the score for academic achievement. If more than one AQF qualification has been completed, the one which awards the highest points score will be used. For points awarded to secondary education results, the score will be generated from the three completed full-year courses that award the highest points.

Year	WACE course level	C grade	B grade	A grade
Year 10		6	8	10
Year 11 or 12	Foundation	6	8	10
Year 11	General	11	12.5	14
Year 11	ATAR	14	16	18
Year 12	General	14	15	16
Year 12	ATAR	18	20	20

For points awarded for completed nationally recognised qualifications, please refer to the TAFE Admissions guide for entry to full time courses or see Mr King.

AWARDS

SCSA AWARDS

Beazley Medal: WACE

The Beazley Medal: WACE is awarded for excellence to the eligible student who achieves the top WACE award score which is used to rank students for the general exhibition.

Beazley Medal: VET

The Beazley Medal: VET is awarded to the eligible student who has demonstrated the most outstanding performance in a VET Certificate II or higher and in their other WACE achievements.

General Exhibitions ATAR

Forty awards, known as general exhibitions, are awarded to the eligible students who obtain the highest WACE award score. The WACE award score is based on the average of five scaled examination scores, calculated to two decimal places, with at least two from each of List A and List B.

General Exhibition (ATSI) ATAR

One award, known as the general exhibition (ATSI), may be awarded to the Aboriginal and Torres Strait Islander student who is eligible and achieves the highest WACE award score. To be eligible for this award, the student must be an Aboriginal or Torres Strait Islander as defined by the Australian Bureau of Statistics. A student may receive both a general exhibition and the general exhibition (ATSI).

Course Exhibitions ATAR

A course exhibition may be awarded to the eligible student obtaining the highest examination mark for each ATAR course, provided that at least 100 candidates sat the examination. To be eligible for a course exhibition, the student must have completed the pair of Year 12 units in the course in the year of the award and have not previously sat the WACE examination for that course.

Certificates of Excellence ATAR

Certificates of excellence are awarded to eligible candidates who are in the top 0.5 percent of candidates in each ATAR course examination, based on the examination mark, or the top two candidates (whichever is greater) in a course where at least 100 candidates sith the ATAR course examination. The number of certificates of excellence issued for each course is based on the number of candidates who sit the ATAR course examination. Where a course includes both written and practical components, the examination mark will be determined using an appropriate statistical process to combine the two examination marks. To be eligible for a certificate of excellence, the student must have completed the pair of Year 12 units in the course in the year of the award and have not previously sat the WACE examination for that course.

VET Exhibitions

A VET exhibition may be awarded to the eligible student who has demonstrated the most outstanding performance in an AQF VET Certificate II or higher and in their course achievements. The student who is ranked first in the selection process for a VET Certificate of Excellence will be awarded the VET exhibition in that industry area.

Certificates of Excellence VET

Certificates of Excellence may be awarded to eligible Year 12 students who complete an AQF VET Certificate II or higher in one of the 133 training package industry areas and who are in the top 0.5 percent of candidates. The units of competency achieved for the certificate may have been undertaken in VETis courses or other VET programmes.

Awards for Outstanding Achievement in the WACE

Certificates of Merit and Certificates of Distinction recognise student achievement in the WACE and are dependent on the degree of difficulty of the courses and programmes undertaken together with the student's level of achievement. These awards will be based solely on the grades awarded to students by their schools.

A certificate of merit or a certificate of distinction is to be awarded to each eligible student who obtains:

- Certificates of Merit: 150-189 points
- Certificates of Distinction 190-200 points

Guide to the allocation of points for the certificates of merit and distinction

Points (per unit)	ATAR Courses	General Courses	Foundation Courses	VET Qualifications
10	A			
9	B			Certificate IV+ Replaces two Year 11 and four Year 12 units
8		A		Certificate III Replaces two Year 11 and four Year 12 units
7		B		
6				Certificate II Replaces two Year 11 and two Year 12 units

More detailed information regarding SCSA Awards can be found at www.scsa.wa.edu.au

THE ARTS

Dean of Learning Area: **Ms Verena Smallman - Acting**

Courses:

ATAR
Dance
Drama
Media Production & Analysis
Visual Arts

General
Drama
Music

Dance - ATAR

The Dance ATAR course acknowledges the interrelationship between practical and theoretical aspects of dance – the making and performing of movement and the appreciation of its meaning. Through critical decision-making in individual and group work, movement is manipulated and refined to reflect the choreographer's intent. Students use a wide range of creative processes, such as improvisation and the use of choreographic elements and devices and draw on their own physicality and the interpretation of existing work of others to create unique dance works. They investigate how technologies are used to extend and enhance dance design. They also learn how dance styles and forms are historically derived and culturally valued. Through dance, students experience an intrinsic sense of enjoyment and have an opportunity to achieve a high level of movement skills.

Unit 1 – Popular Culture

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

The exploration of dance in popular culture leads to a wider understanding of the diverse contexts and functions of dance in our society. Students understand and value the way dance is subject to different interpretations, and appreciate that informed responses should take into account the varying contexts within which dance works are created.

Unit 2 – Australian Dance

Within the broad focus of **Australian dance**, teachers select learning contexts that relate to the interests of their students and build upon the understandings that they have already acquired.
An understanding of the diverse range of functions and contexts of dance in Australia allows students to make relevant comparisons between their own dance and the dance of others. They analyse critically their own cultural beliefs and values in relation to traditional and contemporary dance forms and styles, and develop deeper understandings of their own personal dance heritage. They understand that dance may give form to ideas and issues that concern the wider community.

Unit 3 – Youth voice

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

Students explore learning contexts that reflect their own cultural understanding and produce unique work with a personal style. Students research factors affecting points of view, such as time, place, gender, age, culture, religion, politics and the environment. They consider how dance reflects and is shaped by society and its values. They also investigate the impact of technologies on dance.

Unit 4 – Extending the boundaries

The focus of this unit is **extending the boundaries**. Within the broad focus of extending the boundaries, teachers select learning contexts that relate to the interests of their students and build upon the understandings that they have already acquired.

Students investigate learning contexts that reflect their own artistic understanding and produce unique dance work. They investigate how technologies are used to extend and enhance dance design.

Students research issues and reflect on events which may influence dance. In their responses, they examine their own values, considering how dance is shaped by society and its values. In the critical analysis and interpretation of their own work and the work of others, they reflect on the relationships between dance works, audiences and contexts, and how these contribute to the development of different perspectives.

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.

Unit 1 – Representational, realist drama

The focus for this unit is representational, realist drama. Students explore techniques of characterisation through different approaches for 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.

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.

Media Production and Analysis – ATAR

The Media Production and Analysis ATAR course aims to prepare all students for a future in a digital and interconnected world by providing the skills, knowledge and understandings to tell their own stories and interpret others' stories. Students learn the languages of media communication and how a story is constructed using representations. Students are encouraged to explore, experiment and interpret their world, reflecting and analysing contemporary life while understanding that this is done under social, cultural and institutional constraints. Students are users and creators of media products, consider the important role of audiences and their context.

Unit 1 – Popular Culture

This focus involves identifying what is meant by 'popular' culture and considering the types of media, ideas and audiences from which popular culture evolves. Students analyse, view, listen to and interact with a range of popular media, develop their own ideas, learn production skills and apply their understandings and skills in creating their own productions.

Unit 2 – Journalism

In this unit students will further their understanding of journalistic media. The breadth of this focus allows teachers to choose learning contexts that are of contemporary relevance and related to students' interests. In contexts related to journalism students analyse, view, listen to and interact with a range of journalistic genres and they undertake more extensive research into the representation and reporting of groups and issues within media work. They draw on knowledge when developing ideas for their own productions.

Music - ATAR

The Music ATAR course encourages students to explore a range of musical experiences, developing their musical skills and understanding, and creative and expressive potential, through a choice of one of three defined context of Western Art Music. The course consists of a written component incorporating Aural and Theory, Composition and arrangement, Cultural and historical analysis, and a practical component. Students can choose to perform on an instrument or voice in one of four contexts, and/or submit a composition portfolio. The Music ATAR 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.

Unit 3

Depends on context being studied – refer to SCSA Syllabus documentation.

Unit 4

Depends on context being studied – refer to SCSA Syllabus documentation.

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.

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.

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.

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 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.

Drama - General

The Drama General course focuses on drama in practice. Students engage in drama processes such as improvisation, play building, text interpretation and playwriting. 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. Students' work in the 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 in performance. They present drama for a range of audiences and adapt their work to suit different performance settings. The focus for this course is primarily ensemble performance and team work.

Unit 1 – Dramatic storytelling

The focus on 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.

Unit 2 – Drama performance events

The focus for this unit is **drama performance and 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.

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.

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.

Music – General

Music is an aural art form that involves the exploration, organisation and manipulation of sound and silence. Music has the capacity to engage, inspire and enrich students, stimulating imaginative and innovative responses and fostering critical thinking and aesthetic understanding. Music is processed through aural discrimination, memory and emotional response, all of which interact with each other and with physical processes as a means of perceiving, learning, composing and performing.

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.

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.

ENGLISH

Dean of Learning Area: **Ms Fiona Chapman**

Courses: **ATAR**

English
Literature

General

English

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 creative imaginative, interpretive, persuasive and analytical responses in a range of written, oral, multimodal and digital forms.

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.

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, persuasive and analytical 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.

Unit 3

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

Unit 4

Students examine different interpretations and perspectives to develop further their knowledge and analysis of purpose and style. They challenge perspectives, values and attitudes in texts, developing and testing their own interpretations through debate and argument. Through close study of texts, students explore relationships between content and structure, voice and perspectives and the text and content. 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.

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.

Unit 1 and Unit 2

These units introduce students to relevant and engaging literary texts. Teachers will choose texts that they think are most appropriate to their students. Students are asked to read poetry, prose fiction, drama and multimodal literary texts and to consider what makes a text, 'literary'. They will consider how all texts use language and conventions in particular ways and how an understanding of a specific literary text is shaped by the way it is presented. Students learn that certain conventions that texts use, allows us to group texts into genres.

Students are asked to make connections between texts. They learn the strategies used to help make meaning of what is read, such as recurring themes, narratives, structures and conventions. Students will compare familiar texts with unfamiliar ones, including those from other times and places.
Students will consider how subjects like family, war, love or community are represented differently in different texts. By discussing and analysing such representations, students will begin to create readings of texts.

Students will compare their initial affective responses to literary texts with their more considered, discussed and analytical responses. Students will consider their own attitudes and values; and the moral and ethical positions offered by texts. Students will experiment with creating literary texts of their own, for example, poems, plays and short stories; and literary texts that make use of multimodal techniques, for example, poetic photo narratives or short narrative and dramatic films.

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 languages 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.

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. 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.

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.

Unit 1

This unit 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 every day, 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.

Unit 2

This unit 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.

Unit 3

This unit focuses on exploring different perspectives presented in a range of texts and contexts. Students:

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

Unit 4

This unit 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.

HEALTH AND PHYSICAL EDUCATION

Dean of Learning Area: **Mr Troy Mollica**

Courses: **ATAR**

Physical Education Studies

Physical Education Studies - ATAR

The Physical Education Studies ATAR course focuses on the complex interrelationships between motor learning and psychological, biomechanical and physiological factors that influence individual and team performance. Students engage as performers, leaders, coaches, analysts and planners of physical activity. Physical activity serves both as a source of content and data and as a medium for learning. Learning in the Physical Education Studies ATAR course cannot be separated from active participation in physical activities, and involves students in closely integrated written, oral and physical learning experiences, based upon the study of selected physical activities.

Unit 1

The focus for 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.

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.

Unit 3

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

Unit 4

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

HUMANITIES AND SOCIAL SCIENCES

Dean of Learning Area: **Mrs Emma Stachowicz**

Courses:

ATAR

Business Management & Enterprise
Geography
Modern History

General

Ancient History
Geography
Modern History
Politics and Law

Business Management and Enterprise – ATAR

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

Unit 1

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

Unit 2

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

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 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.

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 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.

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.

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 programme 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.

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 in 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.

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 interpretations; and communicate their findings in a variety of ways.

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.

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.

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.

Ancient History - General

The Ancient History General Course enables students to study life in early civilisations, based on the interpretation of the physical and written remains of different ancient societies. The study of ancient civilisations illustrates the development of distinctive features of contemporary societies; for example, social organisations and religion. The course also explores the possible motivations and actions of individuals, and how they shaped the political, social and cultural landscapes of the ancient world. Students are introduced to the process of reconstructing the past using often fragmentary evidence from a range of written and archaeological sources, and the skills associated with the analysis of historical sources.

Unit 1 – Ancient civilisations and cultures

In this unit, students investigate life in early civilisations, including social, cultural, political, economic, religious, and military structures, and the significant values, beliefs, and traditions that existed. They discover how the world and its people have changed, as well as the significant legacies that exist into the present. Students are able to trace the development of some of the distinctive features of contemporary societies, for example, social organisations, systems of law, governance and religion, through examination of ancient civilisations.

Unit 2 – Power in the ancient world

In this unit, students learn that, key individuals have acted as agents of change, interacting with groups and institutions, and using their power to shape their society. They investigate key individuals' motives, the methods they used to achieve power, the ways they used their power, the responses of others to their power, and their impact and influence on society. Students also learn that individuals, groups, and institutions have a variety of types of power, and that power is not distributed evenly throughout the society.

Geography - General

In the Geography General Course students learn how to collect information from primary and secondary sources, such as field observations and data collection, mapping, monitoring, remote sensing, case studies and reports. Geography as a discipline values imagination, creativity and speculation as modes of thought. It develops students' knowledge about the interconnections between places and explores the spatial patterns and processes related to environments at risk, and to the protection of such environments through management at local, regional and global levels.

Unit 1 – Geography of environments at risk

This unit explores the spatial patterns and processes related to environments at risk, and to the protection of such environments through management at local, regional and global levels. In the local area, in specific regions and globally, people pose threats to the environment as they attempt to meet their needs. Individuals and/or groups can have conflicting viewpoints about particular environments. This can place environments at risk. Sustainable solutions need to be developed for these environments.
Students develop knowledge, understandings and skills in this unit that are relevant to the world in which they live and which are also appropriate to careers in the environmental protection/rehabilitation, urban and regional development, and tourism industries.

Unit 2 – Geography of people and places

This unit explores the natural and cultural characteristics of a region, the processes that have enabled it to change over time and the challenges it may face in the future. Students develop the knowledge, understanding and skills that will enable them to understand and apply the concept of a region to other regions in different scales.

Unit 3 – Natural and ecological hazards

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.

Unit 4 – 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 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 'shrinkage' 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.

Modern History - General

Studying the Modern History General course exposes students to a variety of historical sources, including government papers, extracts from newspapers, letters, diaries, photographs, cartoons, paintings, graphs and secondary sources, in order to understand the historical narrative including cause and effect, and the forces influencing people and events. Through the process of historical inquiry, students are encouraged to question 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.

Unit 1 – People, place and time

This unit allows students to become aware of the broad sweep of history and our place within the historical narrative. Students become aware of the values, beliefs and traditions within a society, the continuity between different societies and different time periods, and the importance of individuals within a time period.

Unit 2 – Power and authority

Students learn that societies consist of individuals and institutions that have various types of power and authority and that these interact with each other. Students learn how power and authority is distributed throughout a group or society, that individuals and groups seek to influence the structure of power and authority and the difficulties of using these structures in a just or equitable manner. In learning about the structures and institutions of societies, they make comparisons and judgements about other societies and their own society.

Unit 3 – Societies and change

Students learn about the evolving nature of societies and the various forces for continuity and change that exist. Students learn that some values, beliefs and traditions are linked to the identity of a society. They also learn that, in any period of change, there are those individuals and institutions that support change, but others that oppose it, and that there are different interpretations of the resultant society.

Unit 4 – Historical trends and movements

Students learn that, throughout history, there have been events, ideas, beliefs and values that have contributed to underlying historical trends and movements. Students learn that historical trends and movements have particular underlying ideas, that different methods and strategies are used to achieve change, and that there are consequences for continuity and change. Some perspectives are omitted and others emphasised, both during the period of the trend or movement and subsequent to the trend or movement.

Politics and Law - General

The study of Politics and Law provides students with knowledge and understanding of the principles, structures, institutions, processes and practices of political and legal systems. It contributes to students' intellectual, social and ethical development. The Politics and Law General Course is an analysis of the processes of decision making concerning society's collective future.

The Politics and Law General Course challenges students to examine the effectiveness of political and legal systems using criteria, such as representation, openness, responsiveness and accountability of those systems and come to an understanding of the complexities of governing nations. The course promotes skills of research and analysis as students engage with investigations and critical thinking as they examine opinions and viewpoints of the relevant aspects of the political and legal systems. They are encouraged to use evidence to formulate and support their explanations, which are communicated in a variety of ways.

The Politics and Law General Course allows students to gain insights into the social and political values underpinning Australia's political and legal system as well as alternative political and legal systems. It provides students with a basis for engaging in an effective, and informed, way with the political and legal system in the future.

Unit 3 – Democracy and the rule of law

This unit examines the principles of a liberal democracy; the legislative, executive and judicial structures and processes of Australia's political and legal system; the functioning of a non-democratic political and legal system; and a non-common law legal system.

Unit 4 – Representation and Justice

This unit examines the principles of fair elections; the electoral and voting systems in Australia since Federation, making reference to a recent (the last ten years) election; an analysis of the civil and criminal law processes in Western Australia; and an analysis of the civil and criminal law processes in Western Australia;, and an analysis of a non-common law system in another country.

LANGUAGES

Dean of Learning Area: **Mrs Deborah Merrett (Acting)**

Courses: **ATAR**

Indonesian

Indonesian - ATAR

The Indonesian: Second Language ATAR course is designed to further develop students' knowledge and understanding of the culture and the language of Indonesian-speaking communities, providing them with opportunities to gain a broader and deeper understanding of Indonesian and extend and refine their communication skills. The course focuses on the interrelationship of language and culture, and equips students with the skills needed to function in an increasingly diverse local community, and provides them with the foundation for life-long language learning. Relevant and engaging tasks, delivered through a range of appropriate contexts and topics, develop literacy in the Indonesian language as well as extend literacy development in English.

Unit 1

The focus for this unit is **Saat ini aku di sini (Here and now).** Students build on their skills, knowledge and understandings through the study of the unit content. They further develop their communication skills in Indonesian and gain a broader insight into the language and culture.

Unit 2

The focus for this unit is **Bisa saya bantu? (Can I help you?).** Students further develop their skills, knowledge and understandings through the study of the unit content. They extend their communication skills in Indonesian and gain a broader insight into the language and culture.

Unit 3

The focus for this unit is **Aneka wacana (Exploring texts)**. Students expand their skills, knowledge understandings through the study of the unit content. They extend and refine their communication skills in Indonesian and gain a broader and deeper understanding of the language and culture.

Unit 4

The focus for this unit is **Isu hangat (Exploring Issues).** Students consolidate their skills, knowledge and understandings through the study of the unit content. They extend and refine their communication skills in Indonesian and gain a broader and deeper understanding of the language and culture.

MATHEMATICS

Dean of Learning Area: **Mr Graeme Rutherford (Acting)**

Courses: **ATAR**

Mathematics Applications
Mathematics Methods
Mathematics Specialist

General

Mathematics Essential

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 a State Training Provider.

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 spreadsheets.

'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.

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 summaries 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.

Unit 3

This unit has three topics: 'Bivariate data analysis', 'Growth and decay in sequences', and 'Graphs and networks'.

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

'Growth and decay in sequences' employs recursion to generate sequences that can be used to model and investigate patterns of growth and decay in discrete situations. These sequences find application in a wide range of practical situations, including modelling the growth of a compound interest investment, the growth of a bacterial population, or the decrease in value of a car over time. Sequences are also essential to understanding the patterns of growth and decay in loans and investments that are studied in detail in Unit 4.

'Graphs and networks' introduces students to the language of graphs and the ways in which graphs, represented as a collection of points and interconnecting lines, can be used to model and analyse everyday situations, such as a rail of social network.

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.

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.

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, conditioning probability and independence. Access to technology to support the computational and graphical aspects of these topics is assumed.

Unit 2

The algebra section of this unit focusses on exponentials. Their graphs are examined and their applications to 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 or 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 calculations 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.

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.

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.

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 ATAR course, as well as demonstrate their application in many areas. The Mathematics Specialist ATAR 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 Mathematics Methods ATAR course as preparation for the entry to specialised courses such as engineering, physical sciences and mathematics.

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.

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 contribution 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.

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.

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 function continues, and the calculus techniques developed in this and previous topics are applied in 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.

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.

Unit 1

This unit provides students with the mathematical skills and understanding to solve problems relating to calculations, applications of measurement, and 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.

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

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.

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

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.

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.

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

SCIENCE

Dean of Learning Area: **Mrs Sally Case**

Courses:

ATAR

Biology
Chemistry
Human Biology
Physics
Psychology

General

Human Biology
Integrated Science

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.

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, measures 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 number 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.

Unit 2 – From single cells to multicellular organisms

The cell is the basic unit of life. Although cell structure and functions 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.

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 is used to offer valid explanations and reliable predictions.

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 the 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.

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 with their tolerance limits. Students study changes in the global distribution of vector-borne infectious disease and how outbreaks of infectious disease can be predicted, monitored and contained.

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.

The 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.

Unit 1 – Chemical fundamentals: structure, properties and reaction

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.

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.

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 explore 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 electromechanical cells.

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.

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.

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 co-ordinated 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.

Unit 2 – Reproduction and inheritance

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 male and female gametes and birth. Disruptions in 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.

Unit 3 – Homeostasis and disease

This unit explores the nervous and endocrine systems and 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 ling-lasting immunity. Vaccinations can result in immunity to infection by exposures to attenuated versions of pathogens.

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 biomechanical 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.

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 1 – Thermal, nuclear and electrical physics

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 charges in circuits and use this to analyse, explain and predict electrical phenomena.

Students develop skills in interpreting, constructing and using a range of mathematical and symbolic representations to describe, explain and predict energy transfers and transformations in heating processes, nuclear reactions and electrical circuits. They develop their inquiry skills through primary and secondary investigations, including analysing heat transfer, heat capacity, radioactive decay and a range of simple electrical circuits.

Unit 2 – Linear motion and waves

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.

Students develop their understanding of motion and wave phenomena through laboratory investigations. They develop skills in relating graphical representations of data to quantitative relationships between variables, and they continue to develop skills in planning, conducting and interpreting the results of primary and secondary investigations.

Unit 3 – Gravity and electromagnetism

Field theories have enabled physicists to explain a vast array of natural phenomena and have contributed to the development of technologies that have changed to 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 directs current motors, direct current (DC) and alternating current (AC) generators, transformers, and AC power distribution systems. Students also investigate the production of electromagnetic waves.

Students develop their understanding of field theories of gravity and electromagnetism through investigations of motion and electromagnetic phenomena. Through these investigations, they develop skills in relating graphical representations of data to quantitative relationships between variables, using lines of force to represent vector fields, and interpreting interactions in tow and three dimensions. They continue to develop skills in planning, conducting and interpreting the results of primary and secondary investigations and in evaluating the validity of primary and secondary data.

Unit 4 – Revolutions in modern physics

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.

Through investigation, students apply their understanding of relativity, black body radiation, wave/particle duality, and the quantum theory of the atom, to make and/or explain observations of a range of phenomena, such as atomic emission and absorption spectra, the photoelectric effect, lasers, and Earth's energy balance. They continue to develop skills in planning, conducting and interpreting the results of investigations, in synthesising evidence to support conclusions, and in recognising and defining the realm of validity of physical theories and models.

Psychology - ATAR

In the Psychology ATAR course students will be introduced to psychological knowledge which supports an understanding of the way individuals function in groups. Students learn about major psychological models and theories, and the methods used to conduct scientific investigations in the discipline of psychology. Students apply research methods used to conduct scientific investigations in the discipline of psychology. Students apply research methods and ethical principles as they analyse data to illustrate how empirical procedures are used to examine phenomena, such as memory, attention, attitudes, personality and group behaviour. Acquiring this foundation of scientific method and critical thinking is a valuable skill that students can apply throughout their study, work and everyday lives.

Unit 1

This unit focuses on a number of concepts that enable students to gain an understanding of how and why people behave the way they do. Students are introduced to the human brain, focussing on the major parts and lobes of the cerebral cortex, and review case studies, illustrating the link between the brain and behaviour. They also explore the impact of external factors, such as physical activity

and psychoactive drugs, on individual's behaviour. Cognitive processes, such as sensation and perception and selective and divided attention, are investigated. The impact of others on behaviour is also studied. Students examine different types of relationships and look at the role of verbal and non-verbal communication in initiating, maintaining and regulating relationships. Students are introduced to ethics in psychological research and carry out investigations, following the steps in conducting scientific research. They identify the aims of psychological investigations and apply appropriate structure to sequence data using correctly labelled tables, graphs and diagrams.

Unit 2

This unit introduces students to developmental psychology by looking at the concept of average development and changes expected as people age. They analyse twin and adoption studies to gain insight into the nature/nurture debate and look at the role of play in assisting development. Students explore what is meant by the term personality and examine several historical perspectives used to explain personality such as Freud's psychodynamic approach. Students investigate the influence of others on self-concept, identity and attitudes. They explore the behaviours observed within groups, such as deindividuation and social loafing, and causes of prejudice. Psychological research methods introduced in Unit 1 are further explored.

Unit 3

The focus of this unit is to introduce new concepts which assist students to have a better understanding of human behaviour. In this unit, students study the functions of the four lobes of the cerebral cortex and examine how messages are transmitted from the brain to the body. They focus on how behaviour is influenced by learning, by reviewing classical and operant conditioning, negative and positive reinforcement and observational learning. They further expand their knowledge and understanding by examining behaviour that is not influenced by learning, such as heredity, hormones and recreational drugs. Students learn about the impact of others on individual behaviour. They examine the socialisation processes observed within families and explore how social background and gender can shape communication styles. They expand on their knowledge of ethics in psychological research by considering the role of the experimenter and participants' rights such as privacy and anonymity. Students engage in detailed investigations of experimental methods, noting practical issues associated with research and its applications.

Unit 4

In this unit, students are introduced to theories of development, including Piaget's theory of cognitive development and Kohlberg's theory of moral development. They review contemporary personality theories and their limitations and analyse the causes of conformity and obedience by investigating the results of famous experiments conducted by Asch, Milgram and Zimbardo. They also gain an understanding into factors that shape a sense of community and explore the varied responses individuals have to significant events. Students continue to develop their understanding and application of psychological research methods. They manipulate dependent and independent variables to test hypotheses and use statistical significance to draw conclusions.

Human Biology - General

The Human Biology General course gives students a chance to explore how the human body works. Students focus on bones, muscles, nerves and hormones, and how they maintain the body to act in

a coordinated manner. The causes and spread of disease and how humans respond to invading pathogens are studied, as well as the role of males and females in the process of reproduction.

Students investigate the body systems through real or virtual dissections and practical examination of cells, organs and systems. They research contemporary treatments for dysfunctions of the body systems and are encouraged to use ICT to interpret and communicate their findings in a variety of ways. Second-hand data is used to investigate transmission of diseases from a historical perspective and recent global incidences.

Unit 1 – Healthy Body

This unit explores how the systems of the human body are interrelated to help sustain functioning to maintain a healthy body.

Cells are the basic structural and functional units of the human body. Materials are exchanged in a variety of ways within and between the internal and external environment to supply inputs and remove outputs for life processes. The respiratory, circulatory, digestive and urinary systems control the exchange and transport around the body of materials required for efficient functioning.

The lifestyle choices we make can have consequences for the optimal functioning of those systems. Humans can intervene to treat dysfunction and influence the quality of life of the individual.

Students investigate the body systems through real or virtual dissections and practical examination of cells, organs and systems. They research contemporary treatments for dysfunctions to the body systems and are encouraged to use ICT to interpret and communicate their findings in a variety of ways.

Unit 2 – Reproduction

This unit explores the role that males and females have in reproduction, including contraception, and the issues of sexually transmitted infections. Students learn about the reproductive systems of males and females and how they are specialised in many different ways to produce differentiated gametes (eggs and sperm) and ensure the chances of fertilisation and implantation are more likely.

The healthy development of the embryo and foetus can be monitored, and technologies available will be presented. Where there are instances of infertility, options available for couples, along with associated risks, will be considered, in addition to lifestyle choices that can affect fertility. Sexually transmitted infections will be researched, and effects, treatments and ways to minimise infection will be examined.

Unit 3 – Coordination

This unit explores bones, muscles, nerves and hormones and how they maintain the body to act in a coordinated manner.

The structure and function of the musculoskeletal system provides for human movement, balance and growth as the result of coordinated actions. This is brought about by the interaction of the musculoskeletal system with the nervous and endocrine systems. Conditions affecting these systems, such as sporting injuries, hearing and vision defects, can result in a decrease or loss of function.

Unit 4 – Infectious disease

This unit explores the causes and spread of disease and how humans respond to invading pathogens. Disease is caused by various pathogens that are transmitted between individuals and populations in many different ways.

Prevention and transmission of disease can be achieved by adopting good hygiene practices at a personal, domestic and workplace level. The body responds naturally to disease in several ways. These actions of the body can be assisted by the use of medications, such as antibiotics, and the use of vaccines.

Improvement in technology and transportation has resulted in humans becoming less geographically isolated, resulting in the transmission of disease becoming an increasing global issue. The frequency of particular diseases in geographical areas is dependent upon population density and standards of sanitation and health services

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.

Unit 1

In this unit, students develop and 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.

Unit 2

In this unit, students develop an understanding of the processes involved in the transformation 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.

TECHNOLOGIES

Dean of Learning Area: **Miss Kirsten Romany**

Courses: **ATAR**

Computer Science

General

Computer Science
Design - Graphics
Engineering
Materials Design & Technology - Wood

Computer Science – ATAR

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

Unit 1 – Developing computer-based systems and producing spreadsheet and database solutions

The focus for this unit is developing computer-based systems and producing spreadsheets 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 the industry.

Unit 2 – Developing computer-based system solutions and communications

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 the industry-based applications.

Computer Science – General

The Computer Science General course focuses on the fundamental principles, concepts and skills within the field, and provides students with opportunities to develop flexibility and adaptability in the application of these in the roles of developers and users. The underpinning knowledge and skills in computer science are practically applied to the development of computer systems and software, while the connectivity between computers, peripheral devices and software used in the home,

workplace and in education are examined. Students develop problem-solving abilities and technical skills as they learn how to diagnose an solve problems in the course of understanding the building blocks of computing.

Unit 3 – Developing computer-based systems and producing spreadsheet and database solutions

The focus for this unit is on 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.

Unit 4 – Developing computer-based solutions and communications

This unit builds on the content covered in Unit 3. The focus for this unit is on 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. Students create solutions exploring the ethical, legal and societal implications of industry-based applications.

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. The Design General course also emphasises the scope of design in trade based industries allowing students to maximise vocational pathways.

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.

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.

Engineering Studies - General

The Engineering Studies General course is essentially a practical course focussing 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 solutions.

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 ad produce lists of materials and components and then follow a given timeline to produce, test and evaluate the finished product.

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.

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. 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.

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 concept for production as a prototype or working model.

Materials Design and Technology – Wood

Materials are the basic ingredients of technology. Materials are used to make machines and these machines use materials to make products. Materials also supply the energy to enable technology to function. Throughout history, the evolution of technology has been largely determined by the availability of materials. The strong historical links between materials, design and technology remain significant in society today. As long as the desire to create new opportunities and to continue to improve our life remains, the development of materials will continue. The Materials Design and Technology Course is a practical course.

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.

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 ranger 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.

VOCATIONAL EDUCATION

Dean of Careers and VET: **Mr Paul King**

Courses: **VET**

Certificate II in Business **
Certificate II in Community Services (children focus)
Certificate II in Hospitality
Certificate II in Information, digital media & technology **
Certificate II in Outdoor Recreation
Certificate II in Sport Coaching
Certificate II in Visual Arts – Art***
Certificate II in Visual Arts – Photography **
Certificate III in Visual Arts – Art **

****** **Year 11 only in 2018**
******* **Year 12 only in 2018**

TAFE Profile Placements (subject to being offered)

Endorsed Programmes

Workplace Learning – Authority Developed
Other Endorsed Programmes

BSB20115 - Certificate II in Business

This qualification reflects the role of individuals in a variety of junior administrative positions who perform a range of mainly routine tasks using limited practical skills and fundamental operational knowledge in a defined context. Individuals in these roles generally work under direct supervision.

Units of competency may include, but are subject to change:

BSBWHS201	Contribute to health and safety of self and others
BSBIND201	Work effectively in a business environment
BSBINM202	Process and maintain workplace information
BSBINN201	Contribute to workplace innovation
BSBCMM201	Communicate in the workplace
BSBWOR203	Work effectively with others
BSBWOR204	Use business technology
BSBWOR202	Organise and complete daily work activities
BSBSUS201	Participate in environmentally sustainable work practices
BSBITU203	Communicate electronically
BSBITU202	Create and use spreadsheets
BSBITU201	Produce simple word process documents

CHC22015 – Certificate II in Community Services – Child focus

This qualification may be used as a pathway for workforce entry as community services workers who provide a first point of contact and assist individuals in meeting their immediate needs. At this level, work takes place under direct, regular supervision within clearly defined guidelines.

Units of competency may include, but are subject to change:

CHCCOM001	Provide first point of contact
CHCCOM005	Communicate and work in health or community services
CHCDIV001	Work with diverse people
HLTWHS001	Participate in workplace health and safety
BSBWOR202	Organise and complete daily work activities
HLTAID002	Provide basic emergency life support
FSKOCM07	Interact effectively with others at work
CHCECE002	Ensure the health and safety of children
CHCECE004	Promote and provide healthy food and drinks

SIT20316 – Certificate II in Hospitality

This qualification reflects the role individuals who have a defined and limited range of hospitality operational skills and basic industry knowledge. They are involved in mainly routine and repetitive tasks and work under direct supervision. This qualification provides a pathway to work in various hospitality settings, such as restaurants, hotels, motels, catering operations, clubs, pubs, cafes, and coffee shops.

Units of competency may include, but are subject to change:

BSBWOR203	Work effectively with others
SITHIND002	Source and use information on the hospitality industry
SITHIND003	Use hospitality skills effectively
ITXCCS003	Interact with customers
SITXCOM002	Show social and cultural sensitivity
SITXWHS001	Participate in safe work practices
SITXFSA001	Use hygienic practices for food safety
SITXCOM001	Source and present information
SITHCCC003	Prepare and present sandwiches
BSBITU201	Produce simple word process documents
SITHFAB004	Prepare and serve non-alcoholic beverages
SITHFAB005	Prepare and serve espresso coffee

ICT20115 - Certificate II in Information, Digital Media and Technology

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

Units of competency may include, but are subject to change:

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
ICTICT203	Operate application software packages
ICTICT204	Operate a digital media technology package
ICTWEB201	Use social media tools for collaboration and engagement
CUACAM201	Assist with a basic camera shoot
CUADIG201	Maintain interactive content
CUADIG303	Produce and prepare photo images
CUAPOS201	Perform basic vision and sound editing
CUASOU202	Perform basic sound editing
ICPDMT321	Capture a digital image
ICTSAS208	Maintain ICT equipment and consumables

SIS20213 – Certificate II in Outdoor Recreation

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 may be undertaken as part of a team and would be performed under supervision. 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.

Units of competency may include, but are subject to change:

HLTAID003	Provide first aid
SISOODR201A	Assist in conducting outdoor recreation sessions
SISOOPS201A	Minimise environmental impact
SISXIND101A	Work effectively in sport and recreation environments
SISXOHS101A	Follow occupational health and safety policies
SISOBWG201A	Demonstrate bushwalking skills in a controlled environment
SISONAV201A	Demonstrate navigation skills in a controlled environment
SISOCYT201A	Select, set up and maintain a bike
SISOCYT202A	Demonstrate basic cycling skills
SISOCNE202A	Perform deep water rescues
SISOKYK201A	Demonstrate simple kayaking skills
SISOCYT202A	Demonstrate basic cycling skills
SISOMBK201A	Demonstrate basic off-road cycling skills
SISOSNK201A	Demonstrate snorkelling activities
SISXCAI102A	Assist in preparing and conducting sport and recreation sessions

SIS20513 – Certificate II in Sport Coaching

This qualification reflects the role of individuals who apply the skills and knowledge to be competent in delivering a basic instruction session for a sport. Work may be undertaken as part of a team and would be performed under supervision or independently in a structured environment such as a sporting club or school. Individuals wishing to undertake this qualification should be current or past participants in the respective sport specialisation chosen as part of this qualification.

Units of competency may include, but are subject to change:

BSBWOR202A	Organise and complete daily work activities
HLTAID003	Provide First Aid
SISSCO101	Develop and update knowledge of coaching practices
SISSSCO202	Coach beginner or novice participants to develop fundamental motor skills
SISSSDE201	Communicate effectively with others in a sport environment
SISXCAI102A	Assist in preparing and conducting sport and recreation sessions
SISXIND211	Develop and update sport, fitness and recreation industry knowledge
SISXWHS101	Follow work health and safety policies
SISSATH201A	Teach the fundamental skills of athletics
SISSBSB201A	Teach fundamental basketball skills
SISSBSB202A	Teach fundamental basketball tactics and game strategy
SISSSPT201A	Implement sports injury prevention
SISXCAI101A	Provide equipment for activities

CUA20715 - Certificate II in Visual Arts - Drawing

This qualification reflects the role of individuals who are developing the basic creative and technical skills that underpin visual arts and craft practice.

Units of competency may include, but are subject to change:

BSBWHS201	Contribute to health and safety of self and others
CUAACD101	Use basic drawing techniques
CUAPPR201	Make simple creative work
CUARES202	Source and use information relevant to own arts practice
BSBDES201	Follow a design process
BSBWOR203	Work effectively with others
CUADRA201	Develop drawing skills
CUAACD301	Produce drawings to communicate ideas
CUADRA301	Produce drawings

CUA – 20715 Certificate II in Visual Arts – Photography

This qualification reflects the role of individuals who are developing the basic creative and technical skills that underpin visual arts and craft practice.

Units of competency may include, but are subject to change:

BSBWHS201	Contribute to health and safety of self and others
CUAACD101	Use basic drawing techniques
CUAPPR201	Make simple creative work

CUARES202	Source and use information relevant to own arts practice
BSBDES201	Follow a design process
BSBWOR203	Work effectively with others
CUADIG202	Develop digital imaging skills
ICPDMT321	Capture a digital image
ICPDMT322	Edit a digital image

CUA31115 – Certificate III in Visual Arts - Drawing

This qualification reflects the role of individuals who are developing a range of visual art skills and who take responsibility for own outputs in work and learning. Practice at this level is underpinned by the application of introductory art theory and history.

Units of competency may include, but are subject to change:

BSBWHS201	Contribute to health and safety of self and others
CUAACD201	Develop drawing skills to communicate ideas
CUAPPR301	Produce creative work
CUARES301	Apply knowledge of history and theory to own arts practice
BSBDES201	Follow a design process
CUAPPR302	Document the creative work progress
CUAACD301	Produce drawings to communicate ideas
CUADRA301	Produce drawings
CUAPAI301	Produce paintings
CUAPRI301	produce prints
CUASCU301	Produce sculpture
CUSTEX301	Produce textile work

TAFE Profile Placements

Profile Delivery is where schools access training (delivery and assessment) through Department of Training and Workforce Development (DTWD) funded profile hours.

Profile Delivery is a perfect introduction into the world of work. Year 11 and 12 students can learn practical skills and gain an insight into the needs of the workplace.

A Profile Delivery programme will make you a more attractive proposition for employers and give you a head start in your chosen career.

General Students are eligible to apply for a Profile Placement which involves attending TAFE for one day a week during term time, normally for the whole year. Students apply directly to the relevant TAFE for the Qualification they wish to undertake and successful entry is subject to factors determined by the relevant TAFE including Academic Performance. The College does not determine if a student gains entry to the programme.

TAFE's offering Profile Placements at Tranby are South Metropolitan TAFE and North Metropolitan TAFE. Information on Qualifications available for Profile Delivery are published by TAFE and can be obtained from Mr King when they are available.

Students who wish to undertake a Profile Delivery Programme are responsible for catching up on work missed on the day they attend TAFE and for maintaining satisfactory performance in the Courses undertaken at the College.

See Mr King for further details if you are interested.

Workplace Learning – Authority Developed

Workplace Learning is an Authority-developed endorsed programme that is managed by individual schools and open to students in Years 11 and 12. To complete this endorsed programme, 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 his/her knowledge and understanding of the workplace skills by completing the Authority's Workplace Learning Skills Journal after each 55 hours completed in the workplace, to a maximum of 4 units. The total number of hours completed in the workplace is reported on the student's WASSA.

This publication has been produced to assist students in the selection of Courses for 2018 and is current as of Friday May 19, 2017. Please be aware that information provided by organisations outside of the College may be subject to change. Updated information will be provided to students as it becomes available and will be published on the Tranby College Website.

Parents and Students are strongly encouraged to visit the School Curriculum and Standards Authority (SCSA) www.scsa.wa.edu.au and Tertiary Institution Services Centre (TISC) www.tisc.edu.au/static/home.tisc websites to view the WACE changes and for a more detailed description and outline of the Courses presented in this publication as well as up-to-date University Entrance information.