UC SENIOR SECONDARY COLLEGE
LAKE GINNINDERRA

Curriculum Handbook 2021

VISION

UC SSC Lake Ginninderra is a diverse community: learning together, encouraging curiosity and innovation and providing a range of pathways for students to succeed.

MISSION

Preparing students to live in, and contribute to, a changing world, UC SSC Lake Ginninderra provides an inclusive and active learning environment, empowering students to be lifelong learners.

VALUES

Connect | Innovate | Impact

University of Canberra Senior Secondary College, Lake Ginninderra works in partnership with students, parents, teachers and the community to provide a high quality, challenging, relevant and engaging educational program.


UC SENIOR SECONDARY COLLEGE
LAKE GINNINDERRA

Index and List of Courses 2021

Codes

T = Suitable for university entrance requirements
A = General course for Senior Secondary certificate
V = National Vocational Certification available
C = National Vocational Certification only

COURSES

Information available at **www.lakeonline.act.edu.au**

THE ACT SENIOR SECONDARY SYSTEM

ACT secondary colleges and non-government schools participate in the ACT senior secondary system. Course accreditation, assessment procedures and certification programs take place under the authority and guidance of the ACT Board of Senior Secondary Studies (ACT BSSS).

The Board's role is to develop policy and procedures relevant to Year 11/12 studies in the ACT.

The Office of the Board monitors developments in assessment and supervises the production of the system certificates. The Board and the BSSS Section are in continuous contact with other education authorities and ACT certificates enjoy full acceptance by all major university admission authorities both here and overseas and other Registered Training Organisations.

COURSE DEVELOPMENT AND ACCREDITATION

ACT Colleges develop their own curriculum within guidelines set by the BSSS. The Board accredits A, T, M, C and V courses, and places R, E and H courses approved by each College Board, on a public Register.

UNITS and COURSES

Unit

A unit is a combination of lessons, assignments, excursions, tests, etc., organised around a particular theme or within a particular subject and taken over a specified period.

A **Standard Unit** has a value of 1.0 and represents structured learning activities for a minimum of 55 hours. Students may be awarded a **Half Standard Unit**, value 0.5, in a course instead of a standard unit if they enter or leave a course half way through a semester, are on College approved leave, or do not qualify for a standard unit because of poor attendance or non-submission of assessment items.

Course

A course is a combination of units with cohesion of purpose. At UCSSC Lake Ginninderra, most A, T, M and V courses consist of either semester units (value 1.0) or half-semester units (value 0.5). R units may be of shorter duration.

Course Definitions

Minor course - a minimum of 2 standard units .

Major course - a minimum of 3.5 standard units.

Major Minor course - a minimum of 5.5 standard units.

Double Major course - a minimum of 7 standard units.

COURSE TYPES

A course – an accredited course considered by the Board of Senior Secondary Studies to be educationally sound and appropriate for students studying in Year 11 and 12.

C course - a competency based Vocational course delivered at college.

E course—externally delivered competency based course eg CIT

T course - an accredited course considered by the Board of Senior Secondary Studies to provide a good preparation for higher education.

M course - M classification is given to an accredited course which is considered by the Board to provide appropriate educational experiences for students who satisfy specific disability criteria.

H course - university course offered by a tertiary institution to college students

V course - uses a combination of college education and training in the workplace to deliver nationally recognised vocational qualifications.

R courses/ unit - provides appropriate learning for students in Years 11 and 12, in the form of personal development, recreational or community service activities.

CHOOSING YOUR COURSES AT COLLEGE

The decision to choose particular courses should be a cooperative venture involving the student, parents, teachers at high school, members of the Student Services Team and teachers at UCSSC Lake Ginninderra. You should consider the following when making course choices:

- your interests
- your abilities
- what you want to do after college
- what courses are available

Study at college is very demanding and you should also take this into account when choosing courses and levels of

study. Other considerations are tertiary entrance requirements, TAFE requirements, apprenticeship procedures and employer expectations.

The Careers Advisers and other members of the Student Services and Student Programs Team will provide assistance to students and parents in making decisions about courses and units of study.

Students should enrol with the aim of completing the equivalent of five courses over a period of four semesters.

Some students may take three years or more to complete. Students undertaking a heavier workload can complete graduation requirements in fewer than 4 semesters.

ACT SENIOR SECONDARY CERTIFICATE (ACT SSC)

A standard-package student will qualify for the award of the ACT Senior Secondary Certificate on completion of an educational program which includes studies accruing at least 17 standard units value.

These students must complete a minimum of **four** different A, T, M, H, C or E courses from at least **three** different course areas. These must include **at least two** A, T or M courses and **one** of these must be in the **English** course area.

THE T PACKAGE

Students requiring a Australian Tertiary Admission Rank (ATAR) for admission to university need to choose a particular arrangement of courses and sit the ACT Scaling Test (AST) to complete the T Package.

A standard=package T student must complete studies that accrue a minimum of:

- the equivalent of **20 standard units** value. Of those 20 there must be at least the equivalent of 18 A/T standard units, which must include at least the equivalent of **12.5 T standard units and at least a minor course in English.**

The units must be arranged into **courses** forming at least the following patterns:

- **four majors and one minor,** or
- **three majors and three minors;** and
- **at least three major courses and one minor course must be 'T'.**

Students must sit for the **ACT Scaling Test** (AST).

Australian Tertiary Admission Rank (ATAR)

The completion of a T package does not guarantee entry to tertiary institutions. Entry is dependent upon achieving a satisfactory ATAR.

The Aggregate Score

Is the sum of the scores in the best three T major courses plus 0.6 of the score in the next best T course, major or minor. The aggregate is used to determine a student's ATAR.

The aggregate is reported on the Tertiary Entrance Statement which, for T qualified students, accompanies the Senior Secondary Certificate.

SELECTING FOR YOUR 1st SEMESTER

When selecting your units, you are advised to consider your career aspirations, abilities and interests.

You should also note the following :

- Students must enrol **in at least five units per semester** (about 19 hours of class activity per week). This allows you to accumulate 20 standard units after 4 semesters at college.
- Students are advised to maintain a **balanced academic program**.
- Students must complete **at least a minor** in **English, and, if enrolling at ANU is in your plans**, **Mathematics.**
- Students enrolling in more than 5 T courses should consider having one of these at **A, C or R**. This is to help to keep homework loads reasonable.
- If a student does not have a career focus requiring T courses, they are encouraged to study **at least one V course** or another vocationally relevant course.
- **English is compulsory for at least two semesters.** All other courses are 'elective'.
- Students are actively encouraged to study **R units** when available
- Students aiming for tertiary studies should be aware of **current tertiary course prerequisites**.
- Students need to be aware of the **requirements of employers**. Most employers expect students to have studied both English and Mathematics.

Your initial choices can be changed before commencing.

Deciding What To Study

Course Selection Information

It is important that all new students have an individual enrolment interview.

It is also important that you begin to plan a likely package of subjects before the interview.

The course selection interview gives you an opportunity to discuss in detail with our staff, the different subjects and subject levels.

These discussions and your own research will help you to complete the selection process.

Important information

- All Year 11 students are required to do a minimum of 5 courses as a fulltime student. The pattern of your 'T', 'A', 'V', 'C', 'H' and 'R' courses will depend on your individual goals.
- You may amend these course choices after your enrolment interview with course advisers from UCSSC Lake Ginninderra.
- 'T' course – provides a good preparation for higher education. Students who wish to go to university must have at least three majors and one minor in T courses. Check whether relevant CIT courses require T majors.
- 'A' course – educationally sound and appropriate for students studying in Year 11 and 12. These courses give students skills that are useful in the world beyond college including work, traineeships or some study programs at CIT.
- 'V' course – deliver nationally recognised vocational qualifications and can use a combination of school based and on the job training in the work place.
- 'R' course/units – provides appropriate learning for students in year 11 and 12, usually in the form of personal development, recreation or community service activities. These units cannot contribute minors or majors to the minimum requirements of the ACT Senior Secondary Certificate.
- 'C' course - competency based only vocational education and training programs appropriate for students in Year 11 and 12, which are delivered and assessed by Registered Training Organisations such as colleges.
- 'E' course - competency based externally taught vocational education and training programs appropriate for students in Year 11 and 12, or which are delivered as part of an Australian School-based Apprenticeship (ASbA) E courses are assessed by Registered Training Organisations.
- 'M' course— an accredited course which is considered by the Board to provide appropriate educational experiences for students who satisfy specific disability criteria. Most courses have an M option. Check before selecting subjects.

Questions you should to consider

- Will you be seeking a T package and an ATAR at the end of Year 12?
- Are you looking to study at CIT at end of Year 12?
- Do you want to get a job or a traineeship at the end of Year 12?
- How was your attitude and achievement in year 10?
- What level of study outside school are you able to cope with?
- Are your goals realistic?

Planning Your Future

Do you intend to complete a T package?

No *Not Sure* *Yes*

Do you intend to complete a Vocational (V) course as part of your Senior Secondary Certificate?

No *Not Sure* *Yes*

List three career areas of possible interest to you:

_____

_____

_____

What prerequisites/assumed knowledge will you need for these?

(Check with your Careers Adviser or Year Coordinator)

Mathematics Yes ☐ No ☐

Science Yes ☐ No ☐

Vocational Certificates Yes ☐ No ☐

Including Australian School-based Apprenticeships (ASBA)

Portfolio of Work Yes ☐ No ☐

(Such as creative work for Art or Film School)

Other Yes ☐ No ☐

Course Selection

It is important that you plan the package of subjects that you would like to study in college.

After accepting a place at the college you will be invited to be interviewed with your parents/carers at a **Course Selection Evening.** You will then have the opportunity to discuss in detail with our teachers, the different subjects and subject levels.

All year 11 students must take a minimum of 5 courses. Select 5 first choice courses and 2 spare courses (not R units) and list them in order of preference below.

You may amend these course choices after your enrolment interview in consultation with Student Services.

Think carefully about your choices, taking care to make sure the courses you choose reflect your interests, abilities and future career aspirations.

English and Mathematics are recommended for all students.

I would like to study these courses in 2021

Course 1 English (A or T or M)

Course 2 _____

Course 3 _____

Course 4 _____

Course 5 _____

Please choose two other courses in case any of your first choices are not available.

Spare Course 1 _____

Spare Course 2 _____

Please consider these choices prior to your interview.

Assessment Policies

Further information on assessment policies can be found on the BSSS website http://www.bsss.act.edu.au

Late Submission of Work

All assessment tasks are expected to be submitted by the specified due time and date. Unless otherwise stipulated, the due time is 4.00pm for the physical submission of assessment and 11:59pm for the digital submission of assessment, on the due date.
Where marks are awarded for assessment tasks, a late penalty will apply unless an extension is granted. The penalty for late submission is 5% of possible marks per calendar day late, including weekends and public holidays, until a penalty of 35% or the notional zero is reached. If an item is more than 7 days late, it receives the notional zero score Submission on weekends or public holidays may not be acceptable if a physical submission is required.

The table shows applied late penalties.
(Note: NZ = Notional Zero)

	Due Mon	*Due Tues*	*Due Wed*	*Due Thurs*	*Due Fri*
Received Monday	*0*				
Received Tuesday	5%	0			
Received Wednesday	10%	5%	0		
Received Thursday	15%	10%	5%	0	
Received Friday	20%	15%	10%	5%	0
Saturday					
Sunday					
Received Monday	35%	30%	25%	20%	15%
Received Tuesday	NZ	35%	30%	25%	20%
Received Wednesday	NZ	NZ	35%	30%	25%
Received Thursday	NZ	NZ	NZ	35%	30%
Received Friday	NZ	NZ	NZ	NZ	35%

Where marks are not awarded, and a grade only is given for an assessment task, teachers will take into account the extent to which students have demonstrated their ability to complete and submit the task by the due date (taking into account any extensions granted) in awarding the grade. It may not be possible to grade or score work submitted late after marked work in a unit has been returned to other students. Work not submitted by the time marked work is returned to other students may be declared as 'Not submitted'.

Assessment Tasks

If a non-test assessment task is not able to be completed by the due date, the class teacher should be told as soon as possible prior to the task being due. Application for an extension is required to avoid late penalties. The granting of an extension requires acceptable documentation of the reason for the extension.

Absence from a test requires a medical certificate or other acceptable explanation. Tests must be taken on the scheduled day except in the case of illness or misadventure where the student is required to supply a letter from a parent/ guardian or a doctor's certificate. All extenuating circumstances will be considered. Special Consideration conditions may apply.

Completion of Assessment

A student may be awarded a V grade in a unit where she/he, fails to submit assessment worth at least 70% of the assessable work without a satisfactory explanation.

Class Attendance/V grade Policy

It is expected that students will attend all scheduled classes/contact time/ structured learning activities for their classes, unless there is due cause and adequate documentary evidence is provided. A student may be awarded a V grade in a unit where she/he misses more than 6 scheduled classes in a semester unit (or 3 in a term unit) **or similarly is persistently early to leave or late to arrive at a class** without a satisfactory explanation.

Plagiarism, (copying of work in any form without acknowledgement of sources) is a serious offence, and it is the responsibility of all students to ensure that they do not commit this breach of discipline whether intentionally or otherwise. Students may be required to substantiate or verify the authenticity or integrity of completed assignments, reports, etc. Students are advised to keep all the material used in preparing their work such as notes, references, photocopied material, and drafts until the end of the semester. (Please refer to Academic Integrity on the BSSS website)

Unit Grades

Grade descriptors provide a guide for teacher judgement of students' achievement in a subject. Grades are organized on an A-E basis and represent the standard at which students have worked. A-E grades are awarded only if the assessment requirements have been met.

Appeals and Special Consideration

When an assessment item is returned, the student should check the marking. To have an item grade/score reviewed, the student must first discuss the matter with the class teacher. If the problem is not resolved the student should then approach the relevant executive teacher.

If, after these two steps, the student remains unsatisfied with the outcome, they can lodge a college appeal. This is a formal document which should be lodged with the Deputy Principal.

A deadline for appeals in each semester will be advertised. Further advice must be sought from the Deputy Principal.

If matters beyond a student's control have seriously affected marks (illness or misadventure) special consideration is an option.

Workload in other subjects is not a cause for special consideration. Evidence will be required for a claim for special consideration. Application for special consideration should be made to Student Services.

VOCATIONAL ASSESSMENT

Each unit of competence will be assessed independently. There will be an opportunity to be re-assessed (if required) to meet national competency standards, however the original assessment mark will be used to calculate the A-E grade.

Units of competence will be delivered as part of a comprehensive overview of industry practices and within a practical context where possible. The reporting of competencies may occur progressively or as part of an identified assessment process at the end of the unit. These will be recorded later in a student record book.

GENERAL MODERATION PROCEDURES

Unit results (A and T courses)

Common assessment items will be moderated across classes using techniques such as cross-marking, back scaling and standardisation processes according to the policies of the college. Unit results will be calculated as a weighted mean of the individual assessment items. These are standardised to historical parameters.

Course Score (T and H courses)

Course scores are calculated from those unit scores that comprise the best 80% of the minimum number of units required for that course type, excluding discounted units. When there is less than 80% of the minimum course type with non-discounted unit scores, then the course score will be the weighted average of the unit scores completed at the home college. Discounted units are units included in the course but not able to be used for a course score calculation.

CERTIFICATES AND RECORDS

Semester Reports

Semester reports are issued for each unit detailing students' performance in each unit.

At the end of Term 1, a report on student progress is issued prior to Parent/ Teacher interviews. This report indicates any areas of concern, including attendance details.

Statement of Achievement

A Statement of Achievement lists all units completed, together with the grades awarded. Students leaving College before completing the requirements for a ACT SSC are eligible for a Statement of Achievement as a record of their studies. This does not preclude receiving an ACT SSC in the future.

ACT Senior Secondary Certificate (ACT SSC)

The ACT SSC is awarded to those students who complete an educational program approved by the College as having provided a coherent pattern of study and which includes units with a total value of at least 17 standard units.

Students are required to complete a minimum of four different A, T, M, H, C or E courses from at least three different course areas Although generally awarded after two years of study, time to complete is limited to five years.

Special provisions apply to students commencing study after their original cohort has graduated. The requirements for an ACT SSC **abridged package** are:

- Three courses across three different course areas. A maximum of one C or E course can be used as one of these courses.
- A minimum of 6 standard units must be completed.
- Completing the package in one or two years.

Tertiary Entrance Statement (TES)

A Tertiary Entrance Statement is issued to any student who qualifies for the ACT SSC and who completes a T Package. It indicates, along with numerical scores in all T courses studied, the student's Australian Tertiary Admission Rank, which is used by tertiary education bodies to determine eligibility for tertiary study. Abridged packages are available to obtain a TES. An abridged T package should be developed in conjunction with the college.

Australian Qualifications Framework (AQF)

Nationally recognised certificates are used to students in nationally recognised vocational courses who demonstrate the competency standards specified for these awards in particular areas of vocational training. Some ASbA students may be eligible for Certificate lll qualifications.

Student Reference

At the end of Year 12, students may elect to receive a UCSSC Lake Ginninderra Student Reference. This reference provides a range of information about the student's academic performance and participation in College life.

It supplements any Certificates or other records issued, and may be useful for students seeking employment or tertiary entrance.

Vocational Programs

Students should consider including a vocational course in their study package. It can broaden their career outlook and provide for development in a range of skills relevant not just to one career area but to future employment in general.

Vocational Education and Training (VET) is a term used to describe education and training arrangements designed to prepare people for work or to improve the knowledge and skills of people who are already working.

VET programs offer students a wide range of educational experiences leading to or directly involved with work and career opportunities.

These can range from Certificate 1 through six levels of the Australian Qualifications Training Framework (AQTF) to Advanced Diplomas.

Employment Pathways

UCSSC Lake Ginninderra provides Vocational Education and Training, which is responsive to the challenging needs of students in today's workforce.

Students can select work-based programs, which are designed to articulate into further study and assist students to obtain employment upon graduation.

These courses have been developed in partnership with industry, unions and employers.

As a partner with a nationally accredited Registered Training Organisation (Belconnen Training RTO 88005) the college is able to structure work-based training, which has been approved at a national level.

Students are able to graduate with full or partial VET qualifications that are recognised across Australia.

Vocational education involves courses that:

- are developed for students to meet the needs and standards of industry (employers)
- are competency based. That is, students demonstrate their skills in the workplace (or simulated workplace) environment
- may have a period of 'on-the-job' training with an employer
- Are credited on the Senior Secondary Certificate, have national recognition and provide pathways to further education and employment.

Students who undertake vocational (V) courses:

- Gain practical work related skills that employers recognise
- Gain credit transfer and/or advanced standing into other training courses
- Gain a nationally recognised vocational qualification and the internationally recognised Year 12 certificate
- Make valuable contacts with Employers
- "Try out" a career choice before finishing Year 12
- Prepare themselves for the world of work

Vocational (V) Courses

In keeping with the national trend towards vocational training, UC SSC Lake Ginninderra has successfully established a range of vocational courses.

These incorporate nationally recognised competencies which will articulate with further training options and directly into the workforce in those areas. Successful completion of these courses can lead to a nationally recognised Certificate I or II being awarded.

Partial completion can lead to the awarding of a Statement of Attainment.

The following vocational courses are available at the College:

- Automotive Technology
- Business Services
- Furniture Making
- Hospitality Industry
- Outdoor Recreation
- Sport Recreation and Leadership
- Tourism and Event Management

Recognition of Prior Learning (RPL)

If you already have experience that may be relevant to the Vocational Educational Training (VET) Program you are enrolling in, you are entitled to seek acknowledgment of this experience through the Recognition of Prior Learning process, known as "RPL".

The main focus for RPL is what you know, not how or where you learnt it. RPL recognises skills, knowledge and attitudes that you have learnt from life experience, work experience and other training/education.

RPL will identify whether your current skills and experience are similar to that required by the course that you will do.

If you apply for RPL you will be asked to supply evidence to support your application.

This evidence may include examples of relevant life experiences, work experiences, details of studies or training, and references from people who can confirm your claim.

Your VET teacher will provide both advice and print information about the steps involved in achieving RPL status.

Australian School Based Apprenticeship (ASbA)

A school student who is engaged in a traineeship or apprenticeship the arrangement is called an ASbA (Australian School –based Apprenticeship).

ASbAs are part-time and incorporate the features of full-time traineeships and apprenticeships.

Features include:

- A training agreement signed by the employer and the trainee or apprentice.
- A formal training program with training delivery supported by a registered Training Organisation (RTO) that leads to a nationally recognised qualification.
- Training may be recognised as an E course which may contribute to the ACT Senior Secondary Certificate minimum requirements.
- Paid employment under an appropriate industrial arrangement.
- Because the trainees and apprentices are at school, their apprenticeship programs need to be flexible enough to accommodate the students' school, work and training needs.
- The time spent at school, at work and in training needs to be agreed between the employer, the student's parents/guardians, the school and the training organisation.

Structured Workplace Learning and Vocational Placement

Structured Workplace Learning (SWL) and Vocational Placement are operated as part of the Vocational Courses program.

Students who are enrolled in a vocational course will have their SWL or Vocational Placement organised by their teacher.

Officers from this organisation visit the college and explain their role and the students' responsibilities once enrolled in the program.

Structured Workplace Learning (SWL) and Vocational Placement differ from Work Experience in that competencies contained in the vocational course are assessed 'on-the-job' during the placement. A formal SWL may result in a student achieving a W classified unit which may contribute to the Senior Secondary Certificate.

Students are expected to complete competencies as outlined by the course and teacher during the placement time.

Most vocational courses have a Training Record Book that outlines the requirements of the 'on-the-job' assessment.

Work Experience (WEX)

Work Experience is operated as part of the College's Careers program under the guidelines of the Education Directorate.

Most work experience placements occur in the non-teaching week/s at the end of each semester, but placements during a semester are also possible.

During the two years at college, each student has several opportunities to engage in work experience.

Students wishing to undertake work experience should make an application to the college's Work Experience Co-ordinator at least six weeks ahead of the time they would like their placement to occur.

Students who wish to arrange their own placement should include details of their proposed placement in this application. Additional procedures are required to facilitate WEX if the proposed employer is not listed by the Education Directorate as a provider.

To maximise the potential benefits of work experience it is recommended that students discuss their ideas for work experience with their parents and one of the College's careers advisers prior to requesting a placement.

For students under the age of eighteen, it is necessary for parents to sign the work experience application and the work experience agreement after the placement is arranged.

Work Experience contributes credit towards the ACT Senior Secondary Certificate as R units. A maximum of 5 R unit points may contribute to achieving eligibility for the Senior Certificate.

Applied Studies

Food for Life A

This is a food preparation and meal design course incorporating basic nutrition and cultural awareness.

There is a strong practical emphasis and a focus on knowledge and skills required for everyday living.

Course Patterns

This course is not sequential. All units described below are semester-length (value 1.0), although each can be spilt into 0.5 units if required. The nature of each unit is indicated by its title.

Units

Food First

This unit recognises the significance of food in festive and social occasions. It looks at meal times and the significance on family traditions. Typical meals for breakfast, lunch, dinner, snacks and more are used to help students develop skills in the use of equipment and good preparation techniques.

Nutrition for Life

This unit aims to develop the skills and knowledge required to make informed choices about food throughout the life cycle. It will analyse the factors that influence food choice and provide strategies for maintaining health of all individuals.

Food and Culture in Australia

This unit examines the food we eat in Australia and traces the influences of the cultural groups that have contributed to our diet today. It will include study of indigenous foods, food of the first settlers and then examine the influence of migrant populations.

Independent Living

This unit includes time and budget management and looks at consumer issues. It examines accommodation and legal issues relevant to moving away from home for the first time. Students should develop the skills and knowledge to make good food choices on a restricted budget and to prepare nourishing food for peak performance, quickly, easily and independently.

Hospitality Industry C

This course provides students with opportunities that promote an appreciation and understanding of hospitality industry workplace culture and practices. Each unit provides underpinning knowledge and skills for students who are interested in pursuing a career in hospitality and related industries. The qualifications gained have direct pathways to further training for employment in the domestic and international hospitality employment market.

Course Patterns

It is recommended that Year 11 students begin with the unit Catering Industry Fundamentals. All units described below are semester length except for the Structured Workplace Learning.

Units Available

Catering Industry Fundamentals (11/12)
Catering Industry Practices (11/12)
Café Catering (12)
Catering Practices (12)

Structured Workplace Learning (11/12)

Units

Catering Industry Fundamentals (Year 11/12)

This unit covers the following competencies:
Prepare simple dishes
Use food preparation equipment
Participate in safe work practices
Use hygienic practices for food safety
Prepare and serve espresso coffee

Catering Industry Practices (Year 11/12)

This unit covers the following competencies:
Work effectively with others
Provide information and assistance
Produce dishes using basic methods of cookery
Maintain the quality of perishable items
Prepare sandwiches

Café Catering (Year 12)

This unit covers the following competencies:
Interact with customers
Use hygienic practices for food safety
Produce dishes using basic methods of cookery
Prepare and serve non-alcoholic beverages
Clean kitchen premises and equipment
Use cookery skills effectively (SWL highly recommended)

Catering Practices (Year 12)

This unit covers the following competencies:
Produce appetisers and salads
Coach others in job skills
Produce appetisers and salads
Participate in safe food handling practices
Work effectively in hospitality service (SWL highly recommended)

Structured Workplace Learning (SWL) 0.5

Students who wish to achieve a nationally recognised Certificate II in Hospitality will be required to complete a SWL placement or gain Recognised Prior Learning (RPL) if already employed in the Hospitality industry. Evidence is required of 12 full service periods with realistic staff to customer ratios (1:15)

The Hospitality C Course will enable students to work towards a Statement of Attainment in Certificate III in Catering Operations and achieve the following:

- Completion of **SIT10216 Certificate I in Hospitality** in one year (first 2 units of the course)
- Completion of **SIT20416 Certificate II in Kitchen Operations** in two years (all 4 units of the course + 1 Structured Work Placement)
- Pathways to **SIT30916 Certificate III in Catering Operations – Statement of Attainment**

The course is looking at developing skills in back of house (kitchen) operations to industry standard, and is very much practical-based. The course will provide a pathway for students to work in various catering settings as a catering assistant, cook or food service assistant.

Tourism and Event Management A/T/V

Tourism is one of Australia's largest and fastest growing industries.

The industry offers opportunities for careers in Tourist Attractions, Tour Guiding, Wholesale Tour Operations, Retail Travel, Tourist Information Services and Event Management.

Studying Tourism and Event Management can provide a career pathway alternative to university after Year 12. It can provide the skills needed for employment while undertaking further study?

Course Patterns

Minor 2 units

Major 3.5 or 4 units

Units

Tourism and Event Management

This unit includes the skills and knowledge required to develop and update knowledge of the tourism industry, focusing on sourcing and providing destination information relating to tourism in Australia.

This unit also includes the interpersonal, communication and customer service skills required for selling and advising on products and services and providing visitor information.

It also enables students to design, plan and implement an event.

Global Tourism

This unit focuses on the customer service skills required to work in a socially diverse environment as well as health, safety and security procedures.

Students will also be sourcing and providing international destination and advice as well as accessing and interpreting product information.

Working in Tourism

This unit includes the interpersonal, communication and customer service skills required by all people working in the tourism industry. These skills include working with colleagues and customers as well as producing word processed documents.

It also further develops the skills and knowledge required to source and provides destination information and advice to both Australia and International destinations.

Tourism and Events Promotion

This unit includes the skills and knowledge required to source and present information related to tourism and events promotion.

The skills and knowledge required to create a promotional display or stand is covered in this unit. Students are also required to access and interpret product information relating to local tourism events and to operate an online information system.

Structured Workplace Learning (SWL)

Structured Workplace Learning (SWL) is the workplace component of a nationally recognised industry specific VET in Schools program. It provides supervised learning activities contributing to an assessment of competence, and achievement of outcomes and requirements of a particular Training Package.

This provides students with a 'real life, hands on' experience within the tourism industry and is vital for their future employment. It is not compulsory but highly recommended.

ASbA

Students in Year 11 who would like to commence an ASbA (Australian School-based Apprenticeship) within the Tourism industry are also encouraged to participate in a placement.

Vocational Certification

SIT20116—Certificate II in Tourism
To achieve a nationally recognised certificate eleven competencies must be completed.

Arts
Visual and Performing

Note:
Various of the ARTS courses are programmed for updating during 2020.
The latest version of each course is always available at:
http://www.bsss.act.edu.au/curriculum/courses

Dance A/T/R

Dance A/T

By participating in dance, students can develop a range of life skills that will enhance their careers and personal growth. Through performing and working in groups, students experience the pleasure of dancing, gain confidence and fitness and improve their problem solving and communication skills.

The Dance Course allows students to express their feelings and ideas through movement, while developing technical skills in a variety of dance styles. Within all units students will learn technique, look at and analyse dances/theories and practices and use the element of dance to develop and apply original choreography using different stimulus.

Course Patterns

This Course is non-sequential, but Dance Foundations and/or Classical Dance and/or Contemporary Dance are compulsory units to complete a Dance Major, Major-Minor or Double Major.

Units

The units listed are the 1.0 units available in the current course.

Dance Foundations

Students learn basic technique and the elements of dance and composition, and the relationship between dance and the other art forms. The study of basic anatomy and physiology will be related to dance technique and the causes and prevention of common dance injuries.

Classical Dance

Students will learn about the Classical and Neoclassical styles of Ballet and the development of the style through to the present day. They will use and develop a range of ballet techniques

Contemporary Dance

Understanding the influence of significant individuals on the development of dance, choreography and philosophy since the beginning of the 20th century, contemporary dance styles and the development of modern dance will be explored.

Dance and the Entertainment

This unit explores the role that dance has in modern entertainment and develop students' understanding of the commercial application of dance. Styles of dance that may be studied in this unit include jazz, tap, ballroom, K-pop, commercial and musical theatre styles.

Dance and the Media

Students study and explore the connections between dance and different types of media, and gain an understanding of the way in which the media influences various styles of dance production. Students create movement sequences specifically for photography, film and video.

Dance in Australia

The role dance plays in Aboriginal and Torres Strait Islander Societies and a variety of dance styles reflecting the diversity in Australian society is studied and used in performance. Students also study the development of Australian dance companies and groups and the overseas influences which have helped shape that development.

Dance in Our time

In this unit, students will look at and analyse various styles of dance that are prevalent in today's society. Styles that may be explored in this unit are Jazz/Funk/Hip Hop, Jazz (JFH), and/or Contemporary.

Dance in the Community

When studying this unit students will gain insight into the role that dance has within different communities. They will look at various styles of dance and analyse the way that style can influence and bring people together to form a community.

Self Directed Dance

This unit may be available to Year 12 students who wish to complete a Major, Major-Minor or a Double Major in Dance, A or T. Students may negotiate to undertake a major dance project in a specific area of interest. Emphasis will be on linking research and practical studies to previously completed units of study and may include study outside of the college.

Dance Pathways

It is highly recommended that students undertaking this unit participate in Work Experience style placement at a suitable dance related business or institution. The unit looks at applications of dance and the dance practitioner.

Dance Production

In this unit, students will explore the theatre elements of dance and the process of development from the initial concept through to the final production piece.

World Dance

This unit includes the study of Ritual Dance and dance from other cultures.

Drama A/T/R

Some people study Drama simply because they are fascinated by the rich complexity of an art form which is over two thousand years old. Some people study Drama because it is a subject that emphasises essential personal development and life skills.

Others see it as a subject that can make them much more valuable to a prospective employer, provide opportunities for them to become better communicators, better organisers and improve their ability to work in groups and help them to learn how to think creatively.

Drama T studies can count toward your university entrance requirements (ATAR) and your Senior Secondary Certificate. Drama A studies can count toward your Senior Secondary Certificate.

Drama R (Registered) units enable students to gain credit for being in productions without having to do any written work. You might simply decide that no Year 12 package is complete without an Arts subject.

Course Patterns

Drama courses are offered in a non sequential order but some units are more suitable for beginners than others. Students can complete a minor, major major-minor or, with consultation with the faculty head, a double major.

Units

The units listed are the units available in the current course.

Acting for Film and Television

Experiment with a variety of styles of acting for film and television whilst you develop imaginative and original pieces for the screen in a variety of genres. This course focuses on the movement and voice skills needed for successful performances on screen.

Actor And Director

Learn about the roles of actor and director as you study the styles and works of influential directors and theatrical practitioners. This course focuses on developing a broad understanding of a range of theatrical styles through scripted work and improvisation.

Australian Theatre

Explore the rich theatrical traditions of Australia through scripted work and improvisation to create pieces about themes and ideas that matter. This course focuses on the growth of drama and theatre in Australia up to the present.

Comedy

Comedy is an ancient form of theatre, although many of the gags are still easily recognised today. This course examines the evolution of comedy throughout the ages, the elements that make up comedy, and various comic styles through scripted drama and improvisation.

Community Theatre

Students investigate the ways in which theatre can be used by communities as a tool to express their concerns and seek resolution of these issues. Students studying this unit will have an opportunity to work directly with a specific community group or festival event in order to create an original theatrical work in response to the specific needs of a particular community or event.

Design for the Stage

Drama is not only acting; there is a whole world of technology behind the scenes. The focus of this unit is to understand the importance of stage design, and the development and application of set, costume, props and makeup.

Devising an Ensemble Production

Students work as an ensemble to create and present original theatrical work/s for an intended audience. The content studied is driven by the production requirements.

Dramatic Explorations

Explore what makes a good performance in this unit. Students are given a broad introduction to different styles and eras of drama, and different techniques used in creating a performance.

Experimental Theatre

Explore the practitioners and styles that take us out of the everyday and into the abstract, the absurd, the challenging, the political. This unit examines a variety of forms of experimental theatre through scripted and devised work.

Independent Unit (T Only)

Ever thought about putting on your own play or creating a full-scale script? Perhaps creating a sophisticated series of workshops based on a subject that you are passionate about? If you are a final semester student in Year 12 with significant experience in Drama, then this unit allows you to extend and shape your understanding of dramatic processes and by designing and creating your own project.

Lighting and Sound Design

Lighting and sound can make or break a performance and in this unit students will learn how to design and operate lighting and sound for performances.

Modern and Classical Tragedy

The focus of this unit is to explore, examine and journey through the changing face of the tragedy form. This includes consideration of the essential questions of life, death and suffering.

Performing Shakespeare

The range of material in Shakespeare's work is huge and includes tragedy, comedy and history plays. For students interested in performing or studying Shakespeare, this is an excellent unit of study. With a focus on the development of practical skills to interpret text and characters, It makes a great complementary unit if you are studying Shakespeare as part of your English studies.

Realism & Expressionism

One of the most dominant forms of drama over the last century, realism is the study of acting in a natural or realistic way. The focus of this unit is to investigate the expressionist movement as a reaction to realism and the performance styles appropriate to each.

Recorded Voice

Students explore how the recorded voice is used to communicate character meaning and stories. Performance work will focus on the development of vocal skills and IT skill necessary to record and manipulate the voice.

Self-Directed Production

This unit provides students with an opportunity to explore and apply new skills as part of a cohesive self-directed production and performance team. Pre-production, casting and rehearsing are all skills that are developed.

Theatre for Young People

This unit explores theatre designed for young people. Students will have the opportunity to research, select and devise performances suitable for an audience of children and young people.

Theatre Production and Performance

This unit allows them to develop an understanding of the various roles in the production of a play; performers, production personnel and technical support. You will have an opportunity to work both as an individual and a member of a group to produce devised and/or scripted drama.

Theatre Visionaries

The focus of this unit is an in depth study of a few significant theatre movements and practitioners from classic to modern times that have had a profound impact on the development of Western Theatre.

The Director

Students will learn about the responsibilities of the director and acquire a practical and theoretical understanding of theatrical direction. This unit is intended for experienced students to work in conjunction with performance classes and to explore different directorial styles in order to realise performances of scripted drama.

Voice and Movement

Voice and movement are vital dramatic tools, and this unit focuses on how we use both to impart dramatic meaning. Working with the principles of physical theatre, students work as an individual and as a member of an ensemble to perform scripted and devised works.

World Theatre

There's a whole world of different theatrical practices out there; you may have heard of theatrical forms like Noh, Kabuki, Indonesian puppetry or indigenous ritual and storytelling. This unit allows you to explore different types of drama from around the world, experimenting with skills from a variety of cultures and time periods.

College Productions/Musicals

Productions are open to all students in the college. Students that take part in a college production will also be enrolled in an appropriate Drama or Music T, A or R unit depending on package requirements. Many students doing a T package choose to do a Theatre Arts accredited minor as a way of enhancing their package or as an extension to T Drama studies.

Prerequisites

There are no prerequisites for most Drama units but some units are strongly recommended for Year 12 only and enrolment is at the discretion of the Drama staff.

Design and Textiles A/T

Textiles and Fashion focuses on design thinking and the application of the design process to create and develop practical solutions using textiles as a medium.

Students learn about the textiles and the fashion industry by exploring; fundamentals of design, emerging technologies, textile and fashion futures, history and culture, sustainability and ethics. Students apply problem solving skills in making appropriate design solutions.

A course of study in Textiles and Fashion can establish a basis for further education and employment in the design fields such as interior personal styling, fashion design, industrial design, costume design, production manufacture and textile technologies.

Classes are a mixture of students studying A and T units.

Course Patterns

This course is non-sequential and consists of four semester units offered over a two year period to attain a Major, or two semester units over a one year period to attain a Minor. A negotiated study unit is available for qualified students.

All semester units are offered as A or T.

Units
The units listed are expected to be available in the new course.

Design Aesthetics

The unit Design Aesthetics examines aesthetics and design theory. Students engage with established methodologies for generating creative textile design concepts, to investigate and experiment with strategies for idea generation and creative product development.

Design for Purpose

The unit Design for Purpose examines how designers create for end purpose. Students engage using a range of textile mediums to design and create products with consideration given to needs, purpose and performance.

Design for Futures

The unit Design for Futures examines the future of design within the context of textiles. Students examine technological tools and processes to create products for the 21st century, with special consideration given to sustainability.

Design for Communication

The unit Design for Communication examines communication methodologies and meanings that effectively disseminate ideas and convey visual messages in textiles and design.

Negotiated Study

A Negotiated Study unit has an important place in senior secondary courses. It is a valuable pedagogical approach that empowers students to make decisions about their own learning. A negotiated study unit is decided upon by a class, group(s) or individual student in consultation with the teacher and with the principal's approval.

Media A/T

Media study delves into the range of Media industries, the impact they have on our lives and society, and the techniques that are used in those industries. All Media study involves practical work as students gain more insights by trying to create their own Media products.

Media is a subject which emphasises communication skills and working with others. It also helps to improve time and resource management techniques as well as emphasising creative thinking and ingenuity.

You might be one of those for whom a Media major or minor provides a head start in any tertiary arts course. Media T studies can count toward your ACT Senior Secondary Certificate and university entrance requirements.

You might simply decide that no Year 12 package is complete without an Arts subject.

Units
The units listed are the 1.0 units available in the current course.

Media Foundation

This is an introductory unit that focuses on crucial skills for Media analysis and a broad study of media industries and their impact on society.

Film Making

The film units all involve identification of Filmic techniques and small practical projects. The units include: Film Genre Studies, History and Development of Film, Film Making, Documentary and Scriptwriting.

Sound

Sound units include: Audio Production and sound Design, and Radio.

Television

The following units involve an analysis of different formats and formulas and a critique of the industry and its influence on society: Television Fiction and Television Non-Fiction.

Video Production

Students learn the basics of camera language, editing techniques, lighting and sound and the range of media industry uses of video production.

Process to Production

Students negotiate with the teacher to do a large scale project, from design through to the final product, that is very near professional in quality.

Animation

Students will study the history of animation techniques, consider the application of animation in a range of media industries and improve their computer skills with at least one major production.

Journalism

A range of topics may be covered in the Journalism units These topics may include Broadcast Journalism, Print Journalism, Sports Journalism and Television Journalism.

Interactive Media

Students explore multimedia elements such as text, graphics, image, 3D elements, video and sound, as well as a range of interactive platforms and multimedia organisations.

Popular Culture

This unit explores the definition of popular culture and explores the range of media industries that contribute to the creation of popular culture through image manipulation and marketing.

Public Communication

This unit enables students to further their understanding and practical skills in Public Communication, with a focus on public relations, advertising and marketing. Through pre-production, production and post-production processes students learn to evaluate their creative process.

Music A/T

Students have access to both acoustic and electronic instruments, or can choose to use their own equipment. Students in all courses have an opportunity to create, perform and record their own compositions in the music studios.

Students have many opportunities to perform at college in activities such as Arts Night, Lake Idol, Focus Weeks, Open Night, Graduation, the College Musical, etc. as well as outside the college at competitions and concerts organised by other organisations.

A Strand

Designed for students wishing to develop their knowledge and skills in music. All levels of instrumental players are welcome, however some basic knowledge of music and instrumental experience is an advantage.

This course is mostly practical with students being given the opportunity to play their instrument individually and in a group.

Some music reading and writing work will allow students to compose their own music. There are no compulsory units in this course and students have many opportunities to join the program.

T Strand

This course assumes students have a formal knowledge of music notation, developed literacy and performance skills and a general knowledge of some musical styles.

It is designed to accommodate levels from Grade 3 (AMEB, Trinity, or equivalent) and upward. The course provides a wide range of activities and students will improve their knowledge and skills in all areas of music including performing solo and in a group, improvising, composing, arranging, and appraising.

Eight semester-length 'T' units are available, allowing students to complete a minor, major, major minor or double major during their two years at college.

Units

The units listed are the 1.0 units available in the current course. Units are chosen from the following streams:

Classical Stream

Introduction to Western Art Period

Early Music

Baroque Period

Classical Period

Romantic Period

20th and 21st Century

Jazz Stream

Introduction to Jazz

Early Jazz

The Blues

Swing

Bebop

Cool and Modern Jazz

Contemporary Jazz Artists

Contemporary Stream

Early Rock Music

Rock Music of the 1970's and 1980's

Rock Music of the 1990's and beyond

Introduction to Electronic Music

Electronic Music

Music for Purpose and Place Stream

Australian Music

World Music

Film Music

Music in Media

Music for Theatre

Ensembles

Self-directed Studies

Electronic Music Production Stream

House and Techno

IDM and Hip Hop

Electro acoustic and DNB

Dancehall and Experimental

R Units

Ideal for students who want to improve their performance skills. Students have the opportunity to perform as an ensemble or as a solo artist.

Photography A/T

Photography plays an enormous role in our contemporary lives; utilized and experienced every day in various modes of visual communication including advertising, social media, and television. Selecting photography as part of your college package gives students the opportunity to creatively explore digital and darkroom technologies, develop skills in visual communication and explore new ways of story telling through imagery.

Students planning a career in this field will have the opportunity to assemble a folio of work suitable for interviews for employment purposes or further study, or you may simply want a creative subject to balance an academic package.

Both the Photography A and T courses are designed to provide a firm basis of knowledge for aspiring photographers and for students studying related visual communication courses. Both courses give students ample scope for serious studies in all aspects of black and white, digital and colour photography.

Photography A

Photography as an A course has a practical emphasis, but students are still expected to undertake research to underpin their understanding and creative processes.

The theory, skills and concepts are the same as the T course and are ideal for students wanting to add a creative subject for balance.

Photography T

In this tertiary course students are expected to undertake research related to various aspects of photography, as well as complete the same class based activities as A students.

Course Patterns

This course is non-sequential. However, it is advised that students complete Photography Practice before completing Photography: Applications and complete Digital Photography before completing Digital Photographic Practice.

Units
The units listed are the 1.0 units available in the current course.

Photography Practice

This is an introductory unit for students to start their photography studies. This unit begins with experimental explorations within the darkroom and eventually covers traditional black and white photography, from image capture, using a SLR camera to printing in the darkroom.

Photography: Communication

This unit continues on from Photography Practice. Advanced darkroom techniques are learnt and alternate processing is explored.

Photography: Applications

This unit is a continuing unit in photography. It covers lighting and advanced digital photography.

Digital Photography

Students will explore digital photography by taking photographs, and learning how to manipulate images in Photoshop.

Digital Photographic Practice

This unit extends the students from what they learnt in Digital Photography to produce refined photographic images.

Art Photography

Art Photography is an advanced unit. The students explore a range of artistic techniques, styles and subject matter.

Negotiated Studies

Students must have completed two standard photography units prior to undertaking this unit. They will negotiate to produce a portfolio on an individual theme which they have selected.

Visual Arts A/T

Visual Arts is fundamental to our lives, how we communicate, express ourselves and explore ideas. Studying Visual Arts is broadly divided into 'making' and 'responding'. In making students learn about the design/artistic process, using materials and techniques, technology and equipment in the production of resolved art works. In 'responding' to art students learn about concepts, visual literacy, roles of the artist and the art critic. Students have the opportunity to develop an informed critical appreciation for art works where they interpret social, cultural and historical significance of art.

The study of Visual Arts provides the opportunity for students to develop transferable life skills in analysing and interpreting, project and time management, and problem solving.

Course Patterns

Students are able to complete their studies in the Visual Arts as a minor, major or double major at a T, A or M level.

Units
The units listed are the 1.0 units available in the current course. The units are designed to isolate specific techniques and for you to develop skills within each area.

Exploration of various media:

Exploring Visual Arts

Introductory unit which covers a range of Art making concepts with 2D and 3D mediums and techniques.

Foundation Skills

Whilst developing safe work practices, students develop techniques to plan and create art-works. They look at art movements, periods and styles and analyse and critique artworks using the Interpretive Frameworks.

Interdisciplinary Art Practice

Particular emphasis is placed on creativity and experimentation which incorporates art forms and techniques from the various areas of visual arts such as fine art, video art, performance art, sound art and installations. It incorporates new forms and ideas within a context of technological advances.

Exploring Emerging Art Practice

In this unit students explore, interpret and critique new forms and ideas in art based on emerging technologies and experimentation with an application of these in the creation of a body of work.

Mixed Media

Students use mixed media to create artworks, and learn techniques of application. This unit looks at art movements, periods and styles, as well as the cultural and technological aspects of the use of mixed media.

Installation
In this unit students will be introduced to contemporary art, in particular installation art. They will use mixed media to explore some basic installation techniques that may include carving, modelling, assemblage, construction, casting, performance art, and integrated 4D art.

Negotiated Art Study

This unit is available to students who have studied two standard 1.0 Visual Art units and who want to investigate tan area of art not previously studied. The unit is student directed with teacher guidance, allowing students to build a body of work towards creating their own portfolio.

Graphic Design and Screen Based Units:

Graphic Communication and Design

This unit is an introduction and exploration of elements and principles, techniques, purpose and media used in graphic communication and design, including typography, collage and illustration.

Graphic Communication and Design in Print

In this unit students explore techniques, especially in software applications, materials and purposes of graphic communication and design in print. They will develop ideas to use the graphic design process to create a body of work such as small books, postcards and marketing publications.

Graphic Communication for the Screen

This unit allows students to develop skills to design for devices such as smartphones, iPads and ebooks, using software like the Adobe Creative Cloud series.

Contemporary Game Design

Students apply the elements and principles of design in relation to new technologies to produce concept artwork for games including scene development and character design. The games may be virtual or projected.

Animation for the Web
Animation for the Web is concerned with the application UX Design process where students create digital animation, augmented reality and data based design. Students will explore the creative issues associated with this changing technology.

Visual Arts A/T

Medium Specific Units:

Illustration

Students learn and explore techniques and materials used to illustrate.

Drawing

Students experiment with a variety of drawing media and techniques to produce a body of work.

Painting

Participants gain understanding and skill in relation to the discipline of painting. They experiment with a variety of styles, paint media , surfaces and techniques.

Printmaking

Students are exposed to a range of printmaking techniques, media and surfaces to produce a body of work.

Sculpture

Students will explore materials, techniques and construction, to create artworks.

Ceramic Specific Units:

Exploring Ceramics

It is an introductory unit, which gives students the basic skills involved with using clay including different techniques of construction, and firing. It is preferred that students complete this unit before other units of Ceramics.

Ceramics Decoration and Firing

Working in clay, the emphasis of this unit techniques of finishing and firing to produce a body of work with different finishes.

Ceramic Sculpture and Mixed Media

This unit looks at ways to extend the repertoire to larger pieces, and Installation. Students apply technical skills to create a mixed media artwork within a ceramic context.

Wheel Work in Ceramics

Students develop skills in throwing techniques using the potter's wheel and create art works.

Hollow Ceramics Form and Sculpture

Techniques and creation of ceramic sculpture are the focus of this unit.

Glass Specific Units:

Exploring Glass

This is an introductory unit that allows students to learn techniques of construction using glass to create artworks.

Glass Objects

Developing construction techniques, students use glass objects as the medium to create artworks.

Glass Sculpture and Architectural Forms

This unit looks at art movements, periods and styles, as well as the cultural and technological aspects of the use of glass in sculpture and architectural forms. Students explore glass sculpture and architectural forms and learn techniques of construction and applications.

Thematic Units:

Art History Research and Application

Students investigate and explore art styles from different periods in art, art movements and different cultures' artworks, and use the techniques and styles as a basis for creating a body of work.

Culture and Identity

This unit is an introduction to thematic approaches to creating artworks, such as Australian identity - stories, myths and legends of the past and present; positive and negative stereotypes and how they are used in constructing cultural stories; multiculturalism in Australia and the role of tradition; personal stories and family history; empathy and alienation; and historical timelines.

Protest Art

Students plan and create a body of work around the theme of protest. Students work individually and collaboratively examining ethical issues to gain an understanding of the degrees of Protest Art.

Contemporary Art Practice

The unit covers the emergence of contemporary art and its relationship to previous art movements, techniques and styles. Students plan and create a body of work around the theme of contemporary art practice, including concepts such as Contemporary art making techniques.

Behavioural Sciences

Today you are you!
That is truer than true!
There is no one alive who is you-er than you!
Dr Seuss (1904 -1991)

Psychology A/T

Note: This course is being rewritten and there will be variations to units in 2021, the information provided provides a good guide as to what will be studied in this course.

"Each of us is, in some way, like all other people, like some other people, like no else," (Allport, G: 1955).

This paradox lies at the heart of Behavioural Science which aims to understand the universality of human experience, as well as individual and cultural differences. The subject area promotes objective thinking and evidence based research, drawing on various methods of enquiry as the basis for exploring, understanding and interpreting human behaviour.

This Psychology course provides students with opportunities to be involved actively in the articulation and clarification of attitudes, values and beliefs and to apply principles to real life situations. Understanding human behaviour facilitates development of the self as well as more effective participation in the ever changing social context.

Over the course of their study, students will learn to explain human behaviour through exploring and applying a variety of theoretical perspectives and practical strategies. Psychology promotes objective thinking and evidence based research, drawing on various methods of enquiry as the basis for understanding and interpreting human behaviour.

Course Patterns

There are no compulsory or pre-requisite units for this course. All units shown are T and A. Some unlisted units are available as 'T only' e.g. Methods of Psychology, Independent Study and some as 'A only' e.g. The Self, The Self in Relationships

Units

In each unit students examine at least two electives for the semester to explain human behaviour as an outcome of influences and interactions. Students explore the assumptions, applications and limitations of psychological research and literature related to the unit.

Unit 1: Individual Differences

Students study individual differences in human cognition and behaviour. Through their studies, students explore the nature of the individual and how these differences relate to society. The key conceptual understandings covered in this unit are: differences in mental abilities and intelligence, personality, development, learning and motivation.

Examples of elective content: Introduction to Psychology and Personality

Unit 2: Into the Mind

Students study the biological basis of human cognition and behaviour. Through their studies, students explore how heredity, environmental and biological factors influence behaviour. The key conceptual understandings covered in this unit are: sensation and perception, consciousness, memory, emotion and neuroscience.

Examples of elective content: Cognitive psychology, consciousness and perception

Unit 3: Psychology of Wellness

Students study the factors that influence physical and mental wellbeing. Through their studies, students explore how heredity, environmental and biological factors influence physical and mental wellbeing. The key conceptual understandings covered in this unit are: positive psychology, mental health, stress, resilience and coping and human relationships.
Examples of elective content: Positive psychology and mental health

Unit 4: Psychology in Society

Students study the role of psychology in society. Through their studies, students explore how individual perceptions and interaction influence social relationships. The key conceptual understandings covered in this unit are: attitudes, prejudice, forensic psychology, human relationships, organisational psychology and social influences.

Examples of elective content: Attitudes, Prejudice and Forensic Psychology

Unit 5: Negotiated unit
For qualified students

Sociology A/T

Note: This course is being rewritten and there will be variations to units in 2021, the information provided provides a good guide as to what will be studied in this course.

Sociology is the study of how individuals and groups think, feel, and behave. Students will develop an understanding of themselves and others by exploring the roles and interactions between individuals and society.

Students will also develop their knowledge and understanding of theories, concepts and perspectives to explain behaviour. They analyse the nature and purpose of Sociology and develop insights into types of behaviour across a range of contexts in society.

This course enables students to understand how individuals function within different contexts. Such knowledge has the potential to empower and enhance individual abilities and facilitate awareness of the human condition, along with tolerance and respect for others.

Units

Unit 1: Identity

In Unit 1, students study the ways people define themselves and their relationships with others. The electives study the myriad ways that society classifies and categorises people at an individual and small group level, and how individuals can be constrained and empowered through their identification with such labels.

Examples of electives:

Subcultures
Students studying this elective will learn about how subcultures are formed, what role they play in people's lives, and how they relate to other aspects of society.

Race and Ethnicity
Students studying this unit will learn about sociological approaches to race and ethnicity in the past, present and future context.

Unit 2: Sociology of Social Justice

This unit explores social issues that lend themselves to activism and debate: issues of equality, justice and fairness on a social scale. The electives provide students with opportunities to explore all sides of these issues, to develop the skills and acquire the information to make informed decisions about issues that affect them.

Examples of electives:

Crime and Justice
Students will learn about how certain behaviours are designated as 'deviant' or 'criminal', theories of why people commit deviant acts, the role of the justice system, and contemporary issues such as crime fighting, the justice system and incarceration.

Global Development
Students studying this unit will learn about the sociological perspectives on the process of globalisation, global inequality, development of nations, international relations, and global citizenship.

Unit 3: Cultural Icons

This unit explores all levels of culture: the ideas, institutions and practices that define the ways we communicate and interact with each other. The electives in this unit provide students with opportunities to study the ways that ideas shape social life.

Examples of electives:

Popular culture
Students studying this unit will learn about ways to analyse and critique popular media to better understand how it both reflects and shapes society.

News Media
Students studying this unit will learn about the influence of news media, issues with the media's role in society and the relationship the news media has with institutions.

Unit 4: Power & Institutions

This unit explores the superstructure of society: the social institutions and systems that determine the structure of society on a macro level, and in turn influence life on a micro level. The electives in this unit provide students with opportunities to study the 'big picture' of society, and explore the ways in which their lives are shaped by forces outside of their control.

Examples of electives:

Power and Politics
Students studying this unit will learn about theories of where power comes from, how it can be used and abused, and the role of the state in distributing and managing power.

Religion
Students studying this unit will learn the core beliefs of the major world religions, how different theories of religion apply to them, and about the impact of religion on the modern world.

Unit 5: Negotiated unit

For qualified students

Commerce, Legal Studies and Social Sciences

Business A/T

Business is the study of the essential planning requirements ranging from a small business to the broader roles of management, finance, human resource management, marketing, e-business, ethical practices, sustainability and the impacts of implications of the future business environment.

Students develop their knowledge and understanding of the structure and operation of Business models. They examine the relationship between theory and practice including the role of stakeholders and decision-making.

Students develop the skills to create innovative solutions to business problems. They will research and analyse information to present logical and coherent arguments through an inquiry approach to learning. Students will assess the ethical implications and consequences of a changing business environment.

The study of Business enables learners to develop their knowledge, understanding and skills to enhance the well-being of all citizens locally, nationally and globally.
The Business course provides continuity with many pathways into tertiary and industry studies.

Course Patterns

There are four standard units each of a semester duration. There are also half semester units which allow for flexible exit and entry.

This course is non-sequential and there are no prerequisites and no compulsory units. All units can be studied as A or T.

Units

Unit 1: Changing Business Environment

This is an introduction to the world of business and the importance of business planning. After an examination of the business structure and the importance of business in Australia, the business plan is introduced and developed through the unit.

Some of the topics covered in the unit include: the business world, entrepreneurship, types of business entities, the business life cycle and key considerations when setting up a business.

Unit 2: Relationship Management

The main area of study is the relationship between business, customers and the wider business environment. Students will investigate the role of ethics and media within provided business scenarios.

Some topics covered in the unit include: ethics and marketing, media and communication, marketing and marketing research

Unit 3: Planning for the Current Context

This unit investigates the range of tools and strategies utilised by business to plan for success Students will explore the role of finance, models of operation and will be encouraged to create an entry for the CPA Plan Your Own Enterprise Competition.

Some topics in this unit include: financial planning, operations management and business planning.

Unit 4: Business Challenges

This unit investigates the importance for business to be responsive to change from the internal and external environments. Students will explore processes to enable change management to take place, how to manage staffing and local, national and global issues facing contemporary business.

Some of the topics covered in the unit include: change management, issues facing business and developing people.

Note: Students may combine a minimum of a minor in Business with at least a minor in Accounting or Economics for a Commerce major, major/minor or double major.

Economics A/T

Economics is the study of how individuals, groups and nations use limited resources to satisfy wants. Every member of the community is affected by economics every day; by their own decisions or the decisions of others, by government economic policy or through the focus by the media on economic issues.

An understanding of Economics provides an important key to understanding and effectively participating in a modern society. Accordingly, the course is intended to contribute to the general education of students, as well as provide a solid grounding for students who wish to study Economics or related subjects at tertiary institutions.

Course Pattern

Economics is made of standard semester length units (1.0 points), each of these can also be taken as half-semester length units (0.5 points).

Students studying Economics, are able to complete a minor or a major.

Units

In **Unit 1**, students will be introduced to basic economic concepts, models and relationships. This unit examines the choices which all individuals, firms, institutions, markets and governments attempt to address as they confront the problem of satisfying their unlimited wants with limited resources.

Students evaluate economic decisions and analyse economic concepts and principles. Students develop the ability to apply economic theory to current real world events. The key conceptual understandings covered in this unit are the structure, operations and models; concepts and principles; nature and purpose of economics; types and forms; issues, perspective and viewpoints; inquiry, research and investigation; and communication.

In **Unit 2**, students will continue the study of economic theories and concepts as applied to the free market. This unit examines macroeconomic and microeconomic theories as business and governments attempt to address economic issues of cost, benefits and intervention. Students evaluate economic decisions and analyse economic concepts and principles.

Students develop the ability to apply economic theory to current real world events. The key conceptual understandings covered in this unit are the structure, operations and models; concepts and principles; nature and purpose of economics; types and forms; issues, perspective and viewpoints; inquiry, research and investigation; and communication.

In **Unit 3**, students will further examine the role of economic decisions and policies on conflicting issues. This unit examines government intervention in a free market at a national and international level.

Students evaluate economic decisions and analyse economic concepts and principles. Students develop the ability to apply economic theory to current real world events. The key conceptual understandings covered in this unit are the structure, operations and models; concepts and principles; nature and purpose of economics; types and forms; issues, perspective and viewpoints; inquiry, research and investigation; and communication.

In **Unit 4,** students will study the implications and pace of economic programs. This unit examines the impact of globalization, population, trade and development of nations. Students evaluate economic decisions and analyse economic concepts and principles.

Students develop the ability to apply economic theory to current real world events. The key conceptual understandings covered in this unit are the structure, operations and models; concepts and principles; nature and purpose of economics; types and forms; issues, perspective and viewpoints; inquiry, research and investigation; and communication.

In **Unit 5,** examines the economic perspective of the chosen elective.

Geography A/T

Senior secondary Geography builds on the knowledge, conceptual understandings and inquiry skills developed in the Foundation to Year 10 Australian Curriculum: Geography.

Geography provides a disciplinary framework to investigate and analyse a range of challenges facing Australia and the global community.

It enables students to appreciate the complexity of our world and the diversity of its environments, economies and cultures and their interconnectedness.

Course Patterns
It is recommended that Units 1-4 are studied sequentially. However, units may be studied in any sequence.

Units (1.0)

Unit 1 : Natural and Ecological Hazards

Natural and ecological hazards are potential sources of harm to human life, health, income and property, and may affect elements of the biophysical, managed and constructed environments. This unit focuses on identifying risks and managing those risks to eliminate or minimise harm to people and the environment.

Building on their existing geographical knowledge and understandings, students examine natural hazards including atmospheric, hydrological and geomorphic hazards, for example, storms, cyclones, tornadoes, frosts, droughts, bushfires, flooding, earthquakes, volcanoes and landslides.

They 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 2: Sustainable Places

While all places are subject to changes produced by economic, demographic, social, political and environmental processes, the outcomes of these processes vary.

At a global scale, the process of urbanisation has created a range of challenges for both urban and rural places.

Students examine how governments, planners, communities, interest groups and individuals try to ensure that places are sustainable. They also investigate the ways that geographical knowledge and skills can be applied to identify and address these challenges.

Unit 3: Land Cover Transformations

This unit focuses on the changing biophysical cover of the earth's surface, its impact on global climate and biodiversity, and the creation of anthropogenic biomes. In doing so, it examines processes causing change in the earth's land cover.

These processes may include: deforestation, the expansion and intensification of agriculture, rangeland modification, land and soil degradation, irrigation, land drainage, land reclamation, urban expansion and mining.

Unit 4: Global Transformations

The topic 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. It will better enable them to make sense of the dynamic world in which they will live and work.

The unit is based on the reality that we live in an increasingly interconnected world. 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.

Unit 5: Negotiated study

For qualified students.

History

History at UC SSC Lake Ginninderra has three streams: Ancient, Modern and Pre-Modern — It's up to you. Are you an ancient historian interested in Celtic culture, Athenian democracy, or the conquering Achaemenid Empire? Are you a modern historian with a fascination for the effects of colonialism, the French and American revolutions, or the rise of communism within the Soviet Union and China? Are you interested in the period which separates Ancient and Modern? Or are you someone who has a taste for all eras, —the all-sorts liquorice bag of historiography? There's a little something for everyone at Lake G.

History doesn't just take part inside the workbook, either. Students participate in collaborative activities around the classroom such as burial site reconstructions and small analytical presentations; this, with the addition of multiple excursions each year to museum exhibitions and guided tours, allows students a more tactile, interactive approach to their learning.

Students studying history develop skills that are extremely valuable across a range of disciplines and for further study or employment, as well as for the AST in Year 12. We focus on maturing not only a student's knowledge and understanding of historical events, but their:

- Research skills;
- Critical analysis;
- Creative ingenuity;
- Academic writing; and, perhaps most importantly, their
- Empathetic understanding of variant cultures, people and societies through time and space.

Courses offering Australian Curriculum are

- Ancient History A/T
- Modern History A/T
- Pre-Modern History A/T

Course Patterns

The courses are non-sequential and there are no prerequisites and no compulsory units. All units can be studied as A or T . All courses include Unit 5 Negotiated unit for suitably qualified students.

All units from these courses may be included in an Integrated History course allowing a minor, major, major minor or double major. These units can also be divided into discrete term (0.5) units.

Ancient History A/T

The Ancient History curriculum continues to develop student learning in history through the same strands used in the Foundation to Year 10 history curriculum, although the historical knowledge and understanding strand includes a wider range of concepts and contexts for historical study.

The Ancient History curriculum continues to provide opportunities to study world history in the ancient period in more depth. This includes contexts related to Egypt, the Near East, Greece, Rome and Asia.

The Ancient History curriculum continues to develop the skills of historical inquiry, with a greater focus on skills associated with critical thinking, the analysis of sources, historical interpretation and contestability.

Units (1.0)

The Ancient History curriculum consists of four units. For each unit there are seven to 16 topic electives that focus on a particular event, society, historical period, site, source or issue. Each unit includes a focus on key concepts that define the discipline of history, such as cause and effect, significance, and contestability.

Unit 1: Investigating the Ancient World

This unit provides an introduction to the nature of the remaining evidence of the ancient past and issues relevant to the investigation of the ancient world. The unit involves an investigation of the evidence for an ancient site, individual, group or event and how it has been interpreted and represented.

Unit 2: Ancient Societies

This unit examines how people lived in the ancient world through an investigation of the remaining evidence. The unit focuses on the study of significant features of ancient societies, such as slavery, the family, and beliefs, rituals and funerary practices.

Unit 3: People, Power and Authority

This unit examines the nature and exercise of power and authority in ancient societies in key periods, with reference to the evidence of significant political, military, religious and economic features. The study of an individual as part of this unit enables study of the influence of the 'individual' on events and developments.

Unit 4: Reconstructing the Ancient World

This unit focuses on a significant historical period to develop an understanding of the relevant institutions, practises, key events and individuals of the period, in the context of a wide range of sources. This unit allows for greater study of the challenges associated with the interpretation and evaluation of evidence.

Modern History A/T

The Modern History curriculum continues to develop student learning in history through the same strands used in the Foundation to Year 10 history curriculum, although in the historical knowledge and understanding strand in Years 9-10, there is a focus on the history of Australia and the modern world, particularly world events and movements of significance in Australia's social, economic and political development.

The Modern History curriculum focuses on the 20th century and continues to provide opportunities to study world history, including Australian history, in more depth. This includes topics related to revolutionary change, struggles for civil rights, the history of other nations, tensions and conflicts of international significance, and Asian and Australian history.

The Modern History curriculum continues to develop the skills of historical inquiry, with a greater focus on skills associated with critical thinking, the analysis of sources, historical interpretation and contestability.
Units (1.0)

In Modern History, students study the forces that have shaped the modern world and develop a broader and deeper comprehension of the world in which they live. The Modern History curriculum consists of four units.

For each unit there are five to eight topic electives that focus on a particular nation-state, movement or development. Each unit includes a focus on key concepts that underpin the discipline of history, such as cause and effect, significance, and contestability.

Unit 1: Understanding the Modern World

This unit provides an introduction to significant developments in the modern period that have defined the modern world, and the ideas that underpinned them such as liberty, equality and fraternity.

Unit 2: Movements for Change in the 20th century

This unit examines significant movements, developed in response to the ideas studied in Unit 1 that brought about change in the modern world and that have been subject to political debate. The unit focuses on the ways in which individuals, groups and institutions have challenged authority and transform society.

Unit 3: Modern Nations in the 20th century

This unit examines the 'nation' as the principal form of political organisation in the modern world; the crises that confronted nations in the 20th century; their responses to these crises, and the different paths they have taken to fulfil their goals.

Unit 4: The Modern World since 1945

This unit focuses on the distinctive features of the modern world that emerged in the period 1945-2010. It aims to build students' understanding of the contemporary world - that is, why we are here at this point in time.

Pre-Modern History A/T

The Pre Modern History curriculum enables students to study life in the pre modern period (c. 400-1750 CE) based on the analysis and interpretation of physical and written remains.

Pre modern history stimulates students' curiosity and imagination and enriches their appreciation of humanity and the value of the past. It shows how the world and its people have changed, as well as the significant legacies that exist into the present.

Students develop transferable skills associated with the process of historical inquiry.

The four units in the Pre-Modern History course :

Unit 1: Transformation

The unit provides an introduction to the pre modern world. It looks at the factors that transformed societies in this period. It also explores the problematic and contestable nature of the evidence, both written and archaeological, that has survived. The fragmented nature of the evidence requires students to develop techniques for analysing historical silences.

In addition, students will investigate the contested nature of interpretations and representations of this evidence. This unit focuses on issues relevant to the investigation of the pre modern world and builds on the historical skills developed in the Foundation to Year 10 curriculum to develop an introduction to historiography.

Unit 2: Golden Ages

This unit examines the role of individuals and personalities in historical causation and compares this to social structural theories. Students will undertake two case studies in which they explore the role of a great person within the 'golden age' in which they lived.

Students will examine the notion of a Golden Age, and the role of a great people within that age, with reference to political, economic, social, artistic and cultural developments.

They will ask questions such as:

- For whom this was a Golden Age?
- To what degree Golden Age is a suitable term to describe the lives of ordinary people?
- To what extent can a 'great person' claim the creation of a Golden Age?
- To what extent is our perception of a Golden Age shaped by the surviving sources?

Unit 3: Conflict

This unit examines the interaction of societies in the pre modern period and the impact that they have on one another. The approach taken by this unit is comparative in that it explores different perspectives on the same events. This will include interrogating different perspectives through source material and examining its origins, purposes, values and limitations.

Students will also investigate archaeological sources and develop techniques for interpreting and understanding historical material other than the written word. Further, the fragmented nature of the evidence requires students to develop techniques for analysing historical silences and the way that these have shaped the cultural narrative.

This unit will explore the complexities of contact between groups of people and the adaptations, confrontations, benefits, relationships, or violence that might result.

Unit 4: Power

This unit examines the nature and exercise of power and authority in pre modern societies, with reference to formative ideologies. Students will analyse structures, loci and relations of power to understand their varied and complex nature. This type of analysis requires students to engage with scholarly and historiographical debate.

Students will employ theoretical frameworks for analysis of Historical phenomena. These theories may include: Gender Theory, Marxism, Modernism/ Positivism, Post-modernism, Post-colonialism, Subaltern Studies, Orientalism, etc.

Unit 5: Negotiated Study

Each of the history courses offers a negotiated study unit for suitably qualified students. Discuss with your teacher any intention to choose a negotiated study.

Legal Studies A/T

Legal Studies explores the law, and its institutions and processes, in a social, economic and political context allowing students to investigate, question, and evaluate their personal view of the world and society's collective future.

Students develop their knowledge and understanding about how legal systems impact on the lives of citizens, seek to balance the rights and responsibilities of individuals, the community, and governments, in an effort to achieve justice and equality for all. Students will evaluate the effectiveness of laws, institutions and processes, and consider opportunities for reform.

Legal Studies provides students with the opportunity to develop their skills in research, analysis and evaluation of information. Through the use of logical and coherent arguments, students will explore the implications and consequences of decisions made by individuals, organisations and governments. Students will communicate their insights in a range of modes and mediums.

It is designed for students contemplating the law as a career. This subject is equally appropriate as a preparation for further studies in Economics, Business, Accounting, History, Sociology and Global Studies.

Course Patterns

This course is non-sequential and there are no prerequisites or compulsory units.

All units can be studied at T or A level.

Minor (minimum of 2 semesters) or major (minimum of 3.5 semesters) courses may be completed in Legal Studies.

Units

Unit 1 Crime, Justice & Legal System

In **Unit 1**, students study the complexity and limitations of the criminal justice system in achieving justice. Through the use of a range of contemporary examples, students investigate criminal law, processes and institutions and the tension between community interests and individual rights and freedoms.

The electives covered in this unit include:

- The Criminal Justice and Political System
- Sentencing, incarceration, prisons and detention
- Criminology
- Justice and Vulnerable People

Unit 2 Civil Law & Dispute Resolution

In **Unit 2,** students study the rights and responsibilities that exist between individuals, groups and organisations and the resolution of civil disputes through courts and other mechanisms. Through the use of a range of contemporary examples, students investigate civil law, processes and institutions, and develop an appreciation of the role of civil law in society.

The electives covered in this unit include:

- The Civil, Legal and Political System
- Entertainment and the law
- Employment, business and the law
- Property law
- Civil wrongs
- Family and the law

Unit 3 Law, Government & Society

In **Unit 3,** students study the significance of legal rights and responsibilities in everyday life from different political, economic and social perspectives. Through the use of a range of contemporary examples, students investigate how the law attempts to balance the rights and responsibilities of the individual with the best interests of the wider community.

The electives covered in this unit include:

- The Australian Legal and Political System
- Politics and the Law
- Consumers and the Law
- Birth, Life and Death
- Rights and Freedoms
- Young People and the Law

Unit 4 International Relations & Law

In **Unit 4,** students study the significance of Australia's international legal and political responsibilities from different political, economic and social perspectives. Through the use of a range of contemporary examples, students investigate how the law attempts to balance the rights of individual states with their responsibilities in the wider global community.

The electives covered in this unit include:

- The International relationship between Australia and the World
- International crime, conflicts and terrorism
- Displaced Persons and the Law
- Environmental Law
- Sea, Sky and Space

In **Unit 5,** qualified students may study a Negotiated Unit.

Social and Community Work A

This course aims to provide opportunities for students to gain the skills necessary to make a smooth transition to post school options, especially those in the social and community work area.

The course at concentrates on the underpinning knowledge required for work in the community services industry. Students learn a variety of skills which should assist them in communicating effectively at a routine level in a range of environments.

Course Pattern

There are no compulsory or prerequisite units in this course.

The units are discrete and are usually offered in the order of:
Work in Community Services,
Interact with Children,
Work with Young People,
Disability and Aged Care

Units

Work in Community Services

This unit examines the nature of the community services sector, the services, clients, employers and employees. It introduces the student to the industry provides valuable insight into the range of jobs in the Community Services Industry. This unit equips students with knowledge of the structure, functions and philosophy of agencies in the community sector.

Interact with Children

This unit focuses on the physical, social, emotional and cognitive development of children. Students will learn about how to support a child's play and learning, prepare for work in the childcare sector, communicate with stakeholders and follow policies, procedures and programs of various organisations.

Work with Young People

This unit focuses on introducing students to a variety of youth services and the role of youth workers in the community. Students will learn how to communicate with people from a range of backgrounds and assist young people to access a variety of support services and organisations. This unit should enable students to work effectively with young people and examine the current issues faced by todays youth.

Disability and Aged Care

This unit should enable students to develop knowledge of the concepts and definitions of disability. Students will develop an understanding of how disability impacts on the everyday life of a person. They will learn principles surrounding the social, cultural and physical needs of older individuals which will enable them to apply developmental knowledge to care giving practices. Students will evaluate stereotypes and learn to empower individuals regardless of their age or abilities.

This unit should enable students to work with others, communicate with people accessing the services of the organisation, participate in WHS processes, work effectively with young people an prepare for alcohol and other drugs work.

Design

Design courses
The study of Design focusses on exploring the purposeful use of technologies and creative processes to produce design solutions.

Students will develop research skills, computational thinking and a range of communication skills. They will refine their interpersonal and intrapersonal skills including collaboration, project management and be able to reflect on their learning.

Students will have opportunities to use design thinking and apply creativity through structured, collaborative and project -based learning, solve problems, develop practical skills and apply critical thinking in the development of new ideas.

Design courses offer students a range of career pathways in design in fields such as engineering, fashion, furniture, jewellery, textile and ceramics, at both professional and vocational levels.

Design and Emerging Technologies A/T

Course Patterns
The courses are structured non-sequentially for either major or minor study. There is flexibility to study a Negotiated Unit.

Unit Descriptions
All units described are semester-length (value 1.0).

Design Processes
A design process is the central framework that designers use to create innovative ideas and solutions.
This unit gives students the opportunity to apply a staged design process to develop design solutions. They will apply design thinking in a focus area such as creating products, systems or environments. Student skills and understanding are developed by using the design process to define needs or opportunities, collect information, develop ideas, analyse, plan, produce and evaluate final solutions.

Product Design
Designers play a vital role in shaping the way we live through the design of the products that surround us. This unit gives students the opportunity to develop a user centred product while considering the social, ethical and environmental responsibilities of designers. It provides opportunities for creative thinking, the development of technical knowledge and understanding design opportunities that are brought about by technological change.

Design for Manufacturing
Design for manufacture explores the way in which design solutions are produced using existing and emerging technologies. The focus of this unit is on production processes, prototyping, manufacturing, economy of scale, material properties and emerging technologies. This unit offers students the opportunity to design, make and evaluate design solutions using a range of materials, technologies and production processes.

Innovation and Design
Authentic innovation in design can be achieved by combining process thinking with new ideas and existing and emerging technology. This unit offers students the opportunity to explore an area of futuristic design concepts within the focus areas of systems, product or environment design. Students will use their understanding of: design process; technical knowledge; social, ethical and environmental responsibilities to create, test and evaluate this design solution.

Negotiated Study

In this unit, a student will study an area of special interest within Design and Emerging Technologies

Design and Graphics A/T

Unit Descriptions

Design Applications
In this unit, students learn graphic design principles which focus on solving design problems, presenting ideas and solutions as graphical products. They explore a range of mediums to create practical solutions to design problems. The purpose of this unit is to build skills and create a finished product for a specified purpose.

Design for a Client Brief
In this unit, students learn how to interpret a design brief based on needs analysis and task identification. They research the client's and target users/audience needs considering ethical considerations, financial constraints and affordances, meeting deadlines and deliver a product that is fit for purpose.

Visual Communication
Students learn to use graphics to inspire, inform or persuade a target audience using a range of graphical techniques. Drawing on current issues in society, students create a visual campaign in response to a design brief.
They learn to create graphic images using colours, textures, contours and shapes to communicate emotions, attitudes and experiences.

Design for Screen & Media
In this unit, students learn to develop designs for a range of platforms including social media, video sharing, digital newspapers and mobile platforms. They use research to understand how the relevant technology can be used to meet the requirements of the given brief. Students develop skills to solve problems in converting products across multiple platforms. Students build knowledge of data conversion, data storage and data manipulation. They create media files, drawing on the technical aspects of design within a digital framework.

Negotiated Studies
In this unit, a student will study an area of special interest within Design.

English and ESL

All students must complete a minimum of a minor course in the English course area in order to attain a Senior Secondary Certificate. All English courses explore books, plays, poetry, films, and electronic media forms.

Contemporary English A
Contemporary English A is designed to meet the literacy needs of students that are not met in other A courses. This course will assist with fundamental skills, particularly reading and writing, that will assist students in coping with college subjects and with post-school opportunities. This course has a focus on practical literacy application and everyday texts. Within the course, a pattern of study is used to develop language competency. All units have reading, writing, listening and speaking.

Contemporary English A is available by application only. Students who possess fundamental literacy skills should enrol in Essential English.

Course Patterns

Students follow a sequential pattern of units.

Minor: 2 units

Major: 3.5 or 4 units

Description of units:

This unit focuses on students comprehending and responding to the ideas and information presented in texts drawn from a range of contexts. Students are taught a variety of strategies to assist comprehension. They read, view and listen to texts to connect, interpret, and visualise ideas. They learn how to respond personally and logically to texts, by questioning and determining the importance of content and structure. The unit considers how organisational features of texts help the audience to understand the text. Students learn to interact with others in everyday and other contexts. Emphasis is placed on the communication of ideas and information both accurately and imaginatively through a range of modes. Students apply their understanding of language through the creation of texts for different purposes in real or imagined contexts.

Each unit includes two elective topics. Elective topics are selected with knowledge of the group and their capabilities, needs and interests. Not all electives are covered in any given year.

Elective options include:

Title	Elective Description
Red Tape	Navigating day-to-day forms, licenses, passports, bank accounts, creating a CV, and understanding processes relating to these
Spiders in the Web	Internet and social media exploration and safe usage. Privacy and permanence of information
Watch your Language!	English for the workplace. Verbal communication and appropriate use of ICT resources. Workers' rights and responsibilities
Who is in Control?	Manipulation of audience by advertising and mass media. Collection of personal information by internet service providers, CCTV, government etc.
Who Dunnit? Law and Order	Crime, crime fiction, law and order in society/you and the law, detective and crime fiction
Speak up, Speak out	Developing confidence and fluency in self-expression and in social interactions. Effective letters/emails of application, introduction and complaint. Addressing selection criteria and job documentation

Essential English A

Essential English focuses on consolidating and refining the skills and knowledge needed by students to become competent, confident and engaged users of English in many contemporary contexts including every day, community, social, further education, training and workplace contexts.

Course Patterns

All Year 11 students in Semester 1 are enrolled in "Comprehending and Responding" as a 1.0 unit. All Year 12 students in Semester 1 are enrolled in "Understanding Perspectives" as a 1.0 unit. Units in this course follow a sequential pattern. Where a unit (below) indicates that elective options will be available, these include areas of study such as comedy and satire, the literature of war, literature of sport, and suspense texts.

Minor: 2 units

Major: 3.5 or 4 units

Units

Unit 1: Comprehending and Responding

The focus of this unit is on how students understand literary and everyday texts and respond to them in a range of text types. Areas of study include speeches, comedy, and documentary texts.

Unit 2: Making Connections

The focus of this unit is on interpreting ideas and arguments in a range of texts and contexts. Students reflect on and explore interpretations of a number of texts, and write their own texts. Elective options will be available within this unit.

Unit 3: Understanding Perspectives

The focus of this unit is on understanding different points of view that are put forward in different texts and contexts. Students learn how to construct a reasoned argument, and interpret texts for meaning within contexts. Elective options will be available within this unit.

Unit 4: Local and Global

The focus of this unit is on understanding community, local, and global issues and ideas presented in texts, and developing students' responses to these issues and stories. Purpose and audience are given significance in analysis and creation of texts.

English T

All students must complete a minimum of a minor course in the English course area in order to attain a Y12 Certificate. [Please note that the BSSS English courses use the word "text" to cover books, plays, poetry, films, and electronic media forms.]

English focuses on developing students' analytical, creative and critical thinking and communication skills in all language modes. It encourages students to engage with texts from their contemporary world, with literary texts and texts from the past and with texts from Australian and other cultures. Such engagement helps students develop a sense of themselves, their world and their place in it.

Course Patterns

All Year 11 students in Semester 1 are enrolled in "Communication of Meaning" as a 1.0 unit. All Year 12 students in Semester 1 are enrolled in "Comparison of Texts" as a 1.0 unit. Units in this course follow a sequential pattern. Where a unit (below) indicates that elective options will be available, these include areas of study such as comedy and satire, the literature of war, book to film, specific periods or contexts, and specific genres such as science fiction, fantasy, or suspense texts.

Minor: 2 units

Major: 3.5 or 4 units

Potential major minor or double major students should see the English/Literature combined course.

Units

Unit 1: Communication of Meaning

In this unit, students explore how meaning is communicated through the relationships between language, text, purpose, context and audience.

Unit 2: Representations Through Texts

In this unit, students analyse the representation of ideas, attitudes and voices in texts to consider how texts represent the world and human experience.

Unit 3: Comparison of Texts

In this unit, students explore representations of themes, ideas and concepts through a comparison of texts. These may be of the same form, or they may be in different forms (e.g. book to film representations).

Unit 4: Perspectives

In this unit, students examine different interpretations and perspectives to develop further their knowledge and analysis of purpose and style. They challenge perspectives, values and attitudes in literary and non-literary texts, developing and testing their own interpretations though debate and argument.

Literature T

Literature focuses on the study of literary texts, developing students as independent, innovative and creative learners and thinkers who appreciate the aesthetic use of language, evaluate perspectives and evidence, and challenge ideas and interpretations. Literature explores how literary texts shape perceptions of the world and enable us to enter other worlds of the imagination. In this subject students actively participate in the dialogue and detail of literary analysis and the creation of imaginative and analytical texts in a range of modes, mediums and forms.

Course Patterns

All Year 11 students in Semester 1 are enrolled in "Ways of Reading and Creating" as a 1.0 unit. All Year 12 students in Semester 1 are enrolled in "Power of Literature" as a 1.0 unit. Units in this course follow a sequential pattern. Where a unit (below) indicates that elective options will be available, these include areas of study such as specific authors, periods or contexts (e.g. Shakespeare, Romanticism, Postmodernism), comparative units, the literature of Australia and other cultures, women in literature, and literary theory.

Minor: 2 units

Major: 3.5 or 4 units

Potential major minor or double major students should see the English/Literature combined course.

Units

Unit 1: Ways of Reading and Creating

This unit develops students' knowledge and understanding of different ways of reading and creating literary texts drawn from a widening range of historical, social, cultural and personal contexts. Students analyse the relationships between language, text, contexts, individual points of view and response.

Unit 2: Intertextuality

This unit develops student knowledge and understanding of the ways literary texts connect with each other. Drawing on a range of language and literary experiences, students consider the relationships between texts, genres, authors, audiences and contexts.

Unit 3: Power of Literature

This unit develops students' knowledge and understanding of the relationship between language, culture and identity in literary texts. Students inquire into the power of language to represent ideas, events and people, comparing these across a range of texts, contexts, modes and forms.

Unit 4: Literary Interpretations

This unit 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.

English/Literature

English/Literature is an integrated course which allows students to study a major minor or double major in the English course area.

The course consists of a combination of units from the following courses:

English T (integrating Australian Curriculum)

Literature T (integrating Australian Curriculum)

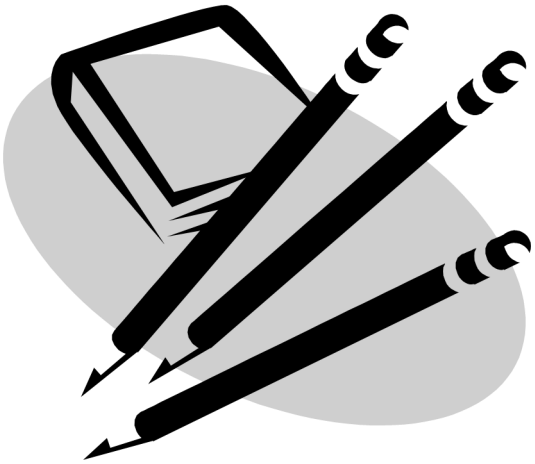
All units from these courses may be included in an English/Literature course providing there is no duplication of content.

Minor: a combination of 2-3 units from these courses. Where students study the first three units in each of English and Literature, two minor courses will be awarded.

Major: a combination of at least 3.5 to 4 units which must include at least Unit 4 from either English or Literature.

Major Minor: a combination of at least 5.5 to 6 units which must include at least Unit 4 from either English or Literature.

Double Major: a combination of at least 7, 7.5 or 8 units from English and Literature.



ESL (English as a Second Language) A/T

This course is appropriate for non-English speaking background students, who have spent less than seven years in an Australian or English language school. The course is a suitable alternative to English for students who wish to pursue post-college study.

Whilst the content is similar in both ESL T and ESL A, the assessment tasks have a more academic focus in the ESL T units.

Each senior secondary English subject draws upon, develops and emphasises different knowledge, understanding, skills and processes related to the strands of Language, Literature and Literacy used in the Foundation to Year 10 curriculum. The emphasis differs according to the nature of each subject. While students encounter, respond to, analyse and create a wide range of literary texts in ESL, the focus of the units is on language learning and the development of oral language and literacy skills in Standard Australian English (SAE).

Course Patterns

All ESL students will be placed in a class based on their language proficiency. To allow flexibility of entry and exit for students, all units are divided into 0.5 value units.

Minor 2 units

Major 3.5 or 4 units

Units

Unit1: Language and Culture

Unit1: Language and Culture a (0.5)
Unit1: Language and Culture b (0.5)

Unit 1 focuses on investigating how language and culture are interrelated and expressed in a range of contexts. The unit will enhance students' confidence in creating texts for different purposes and across all language modes in both real and imagined contexts. It will broaden their understanding of the sociocultural and sociolinguistic elements of SAE and develop skills for research and further academic study.

Unit 2: Perspectives in Texts

Unit 2: Perspectives in Texts a (0.5)
Unit 2: Perspectives in Texts b (0.5)

Unit 2 focuses on analysing and evaluating perspectives and attitudes presented in texts and creating extended texts for a range of contexts. The use of cohesive text structures and language features is developed. The unit focuses on developing planning and editing skills to create extended oral, written and multimodal texts. Attitudes, values and culturally based assumptions within texts are identified, analysed and compared. Strategies for collecting, analysing, organising and presenting ideas and information are refined.

Unit 3: Communication

Unit 3: Communication a (0.5)
Unit 3: Communication b (0.5)

Unit 3 focuses on analysing how language choices are used to achieve different purposes and effects in a range of contexts. The ways in which language choices shape meaning and influence audiences are explored through the study and creation of a range of oral, written and multimodal texts. The representation of ideas, attitudes and values and how these vary across cultures and within different contexts, particularly the Australian context, is analysed and evaluated. Effective and independent research skills are consolidated throughout the unit.

Unit 4: Issues and Attitudes

Unit 4: Issues and Attitudes a (0.5)
Unit 4: Issues and Attitudes b (0.5)

Unit 4 focuses on analysing, evaluating and using language to represent and respond to issues, ideas and attitudes in a range of contexts. Independent and collaborative investigation and analysis are used to explore how language and texts achieve specific purposes and effects. Extended oral, written and multimodal texts and presentations are created, adapted and refined for a variety of contexts, purposes and audiences. Effective research strategies and referencing protocols are used to present ideas, information, conclusions, arguments and recommendations.

ESL A (Bridging)

Bridging Unit 1 is designed for students who are at the Emerging phase of the ESL Foundation to Year 10 learning progression and focuses on developing communication skills in a range of contexts across the language modes of SAE.

Bridging Unit 2 is aimed at students in the late Emerging phase of the ESL Foundation to Year 10 learning progression and focuses on consolidating communication skills in a range of contexts across the language modes of SAE.

Bridging Unit 3 is aimed at students who are in the Developing phase of the ESL Foundation to Year 10 learning progression and focuses on responding to and creating extended texts in familiar contexts in SAE.

Bridging Unit 4 is aimed at students who are in the late Developing phase of the ESL Foundation to Year 10 learning progression and focuses on responding to and creating connected extended texts in personal, social, community and workplace contexts in SAE.

Industrial Technology

Automotive Technology A/V

The Automotive Technology course offers students opportunities to develop basic skills and knowledge necessary to safely maintain and repair single cylinder, two and four stroke motors, multi cylinder engines, drive trains and a variety of electrical equipment related to motor vehicles.

In addition the course enables students to gain nationally recognised Automotive Technology vocational qualifications:AUR10116 Cert I in Automotive Vocational Preparation AUR20716 Cert II in Automotive Vocational Preparation. This will assist students with entry into Trade courses offered by the CIT and TAFE institutions in other states.

Course Patterns

Studied as an A minor, A/V major, or as a major minor (with the work placements).

Units Available

Fundamentals

Electrical Systems

Vehicle Systems

Engine Systems

Automotive Structured Workplace Learning 1 and 2

What's in the course?

The Automotive Retail and Repair industry has positions each year for apprentices and trainees in different occupations. Some examples of people who use Automotive Technology in their daily lives include:

Automotive Mechanics

Auto-Electricians

Diesel Mechanics

Auto body Repairers and Refinishers

Automotive Parts Suppliers

Accessories and Vehicle Sales persons

Tyre Fitters

Specialised Transmission Fitters

Automotive Glaziers

Commencement in this Automotive Training Course can often lead students to gaining an Australian School Based Apprenticeship in Automotive Technology giving them the advantage of an earlier start to their training while still gaining their Year 12 Certificate.

Unit Descriptions

All units described below are semester-length (value 1.0) except for the Vocational Placements. (value 0.5)

Fundamentals

This unit introduces students to the operating principles of 2 and 4 stroke engines, particularly in relation to the repair and maintenance of outdoor power equipment such as lawn mowers. The uses of workshop tools and equipment are practised at OH&S standards. This unit will also cover environmental and sustainability best practice as it applies to the Automotive Workplace.

Electrical Systems

Students will learn the operating principles and components of electrical systems in cars. Electrical and electronic components will be tested, dismantled and analysed. Circuit diagrams will be used and electrical circuits will be constructed. Students will identify dangers of electrical systems and work to OH&S standards in the Workshop.

Vehicle Systems

Transmissions, driveline, brakes, suspension and steering systems will be investigated thoroughly in both the theory room and the workshop. Removal, balancing and refitting of tyres and wheel assemblies will also be studied.

Engine Systems

Students will be able to work on and gain more detailed knowledge of engine mechanics and reconditioning, fuel induction, lubrication, exhaust, cooling and ignition systems. The use of Engine Analysers, adjustments and tuning will be practised.

Structured Workplace Learning (value 0.5)

Two vocational placements of five days in length during which students undergo on-the-job training with local industry employers. These are highly recommended for giving students experience in industry.

Students not completing a full certificate will receive a Statement of Attainment listing the competencies achieved.

Furniture Making A/V

This wood based course is for students who enjoy working with timber. Successful completion of this course gives students the opportunity of gaining MSF10113 Certificate I in Furnishing and MSF20313 Certificate II in Furniture Making. The skills and knowledge developed can benefit students with both lifelong skills and advanced standing towards wood based occupations such as carpentry, cabinet making, shop fitting, forestry or kitchen manufacturing. The units of study combine to provide a wide variety of experiences in both designing and constructing timber based products.

Course Patterns

The units of study combine to provide a wide variety of experiences in designing, constructing, and applying different finishes to a range of projects. There is an advantage in completing all four units. There is free choice for the final project in semester 4. All are semester-length. (value 1.0)

What's in this course?

This course has wide appeal to all students but is very relevant for those interested in a career in a wood related occupation. The course would also assist those interested in learning some practical skills and how to work with timber in the production of various projects.

The course has one unit per semester in Year 11 and in Year 12. To obtain the full vocational benefit of the course you must complete a work placement during the two years. This gives you the opportunity of gaining a nationally recognised certificate. You could then apply for exemptions in further training e.g. at C.I.T. if you pursue a career in this field.

The course expects students to participate to the best of their ability, with courtesy and respect to others and equipment. It exposes students to modules of work which will assist them with; Safety in the workplace, Proper use of Hand and Power tools, Timber preparation and machining, Different Timber finishes, Planning for a project, Issues and Expectations of working for an employer in a practical area.

Once a module is completed then you may request to be assessed for competency for the module. Practical projects, which explore various construction methods, will be completed each semester. Past students have appreciated the industry-based modules and the vocational work placement. Many have found it to be a great introduction to the world of work. Another benefit to you is the possibility of full time employment arising from the work placement.

Units

Fundamentals: Is an excellent introduction to the furniture construction industry. Students are provided with an opportunity to create practical interesting projects. In completing these projects students will have access to machinery and tools to which they have not previously been exposed. Strong emphasis is placed on the development of workshop skills and the successful completion of practical projects.

Trade Skills: Further explores the furniture construction industry and encourages students to achieve at a higher level through the development of their acquired skills. They will continue to use new tools and build upon their workshop techniques. There is a continued focus on practical strength and the supporting theoretical knowledge.

Joinery & Finishing: Takes advantage of the knowledge and abilities acquired in the previous two units. Students begin choosing their own projects and apply basic design principles within the workshop. These projects are of greater difficulty allowing the fine tuning of techniques and processes and will require the students to obtain a finish of exceptional quality.

Project Assembly: Is an exciting unit for the students as they have worked hard developing their skills and workshop knowledge. They are given the opportunity to produce a final project of their own choice. This final project is a true reflection of each student's capabilities. Throughout the course students will have developed a sound appreciation of what the furniture construction industry has to offer.

Competencies covered throughout the course include:

- Apply quality standards
- Assemble furnishing components
- Communicate in the workplace
- Construct a basic timber furnishing product
- Follow OHS procedures
- Follow plans to assemble production furniture
- Hand make timber joints
- Join solid timber
- Make measurements and calculations
- Participate in environmentally sustainable work practices
- Prepare surfaces for finishing
- Select and apply hardware
- Use furniture making sector hand and power tools
- Work in a team
- Work safely in the construction industry

Structured Workplace Learning (value 0.5)

Two vocational placements, of five days during which students undergo training with local industry employers. These are required for gaining a nationally recognised certificate. Students not completing a certificate will receive a Statement of Attainment listing the competencies achieved.

Metal Products A

The study of Metal Products provides opportunities for students to engage with emerging technologies, make connections with industry, apply standards and practices through the manufacturing of their metal projects.

This course is intended to meet the needs of students who have a general interest in industrial technology trades as well as those intending to choose a career pathway into traditional metal trades and related service industries.

Students develop relevant technical, vocational and interpersonal skills suitable for employment and further training.

Course Patterns

Students would normally study Metal Products across 4 semester units.

What's in this course?

This course allows for students to complete set work and also some of their own artefacts in metal by negotiation. It covers topics such as sheet metal, light metal fabrication, metal machining, welding, heat treatment of metals, reading workshop drawings, OHS and flame cutting.

The workshop is well equipped and caters to a wide range of interests in the metal manufacturing and design field.

Some Engineering Drawing is also included in this course to cover communication and interpretation of engineering processes.

Units

All those outlined are semester-length, value 1.0.

Working with Metal

This unit is designed to familiarise students with workshop procedures using metal. Students learn to work safely with metal products, using and naming selected tools and materials correctly. Students learn to use selected tools and machinery to follow a given design to complete the projects undertaken in this unit. They learn communication skills such as following instructions, seeking help and recording processes as well as strategies to solve problems.

Techniques in Metal Manufacture

This unit explores metal manufacturing skills. Students learn the fundamentals of working safely with a variety of metal manufacturing processes including gas and arc welding. They learn to use a range of metal work tools in a variety of fabrication processes to follow a given design to complete the projects undertaken in this unit. Students learn communication skills such as following instructions, seeking help and recording processes as well as strategies to solve problems.

Welding and Cutting Skills

This unit is designed to develop welding and mechanical cutting skills. Students learn the fundamentals of working safely with gas and arc welding. Students learn to use a range of mechanical cutting machinery and processes, and continue to develop skills in welding. They investigate emerging technologies in global metal manufacturing. Students follow a given design to complete the projects undertaken in this unit. They learn communication skills such as following instructions, seeking help and recording processes, as well as strategies to solve problems.

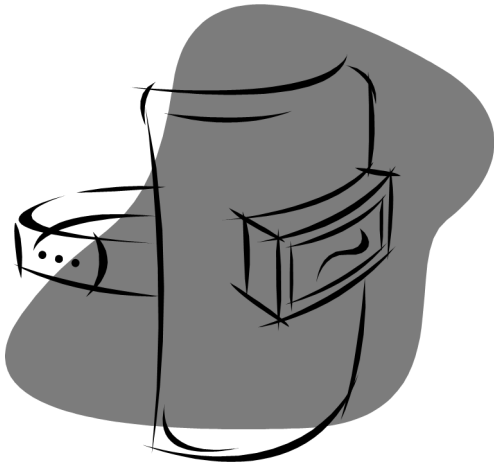
Metal Project

This unit is designed to develop project management skills. Students create a project from a design brief or modify an existing design to meet a particular need, using skills such as machining and welding. They consider the choice of appropriate materials and techniques, the project timeline and the economic use of materials. They learn communication skills such as following instructions, seeking help and recording processes as well as strategies to solve problems.

Course Patterns

The course is made up of nationally accredited competencies. Each unit contains components involving keyboarding, use of computers, interpersonal and communication skills, and office procedures.

A student may be eligible to receive a nationally recognised BSB20115 Certificate II in Business if they achieve the competencies required for this qualification. Students not completing the full Certificate will receive a Statement of Attainment listing the competencies achieved.



Information Communication Technology

Looking for a job in an office when you leave college?

This course provides integrated study and development of a wide range of skills required by industry and employers for prospective employees in offices, and in the modern business world in general.

There is particular emphasis on using Microsoft Office applications and other commonly used computer software. These applications include spreadsheets, word processing, presentations, desktop publishing and databases. Developing the skills required to operate this software is a strong feature of the course.

Units

The units listed are all semester length (value 1.0). Half semester units (0.5) are available for flexible entry and exit.

Unit 1 Navigating the Business Environment

Students learn how to produce business standard word processed documents and presentations, provide customer service and the procedures and responsibilities relating to workplace sustainability, health and safety. They learn oral and written communication skills for the workplace. Students learn what is required to interact with others in a work environment. They develop self management skills and knowledge to assist in success at work.

Unit 2 Business Environment and Services

Students learn how to engage with others in a business environment, contribute to workplace innovation, manage conflict and develop effective workplace relationships. Students will also learn how to use business technology, and develop oral and written skills to communicate information with others.

Unit 3 Implementing Best Practice in Business

Students will learn a range of technological skills to design and produce documents and desktop published articles. They will develop keyboarding skills to support the creation of these.

Unit 4 Business Services Pathways

Students will learn how to create simple databases for storage and retrieval of information. They will also learn how to identify customer needs, deliver and monitor customer service and identify improvements in the provision of customer service. Students will learn what is required to organise workplace information, their own work schedules and to monitor and obtain feedback on their work performance.

Information Technology Courses A/T/V

Why study Information Technology?

When you study Information Technology, you are preparing yourself for the rapidly transforming landscape of work and society. Through Information Technology you will explore the systems that power our digital world, developing your Systems Thinking, Design Thinking and Computational Thinking skills to identify potential futures, and help create solutions for your preferred future. Studying Information Technology can help prepare you for careers of the future: careers involving Artificial Intelligence, Machine Learning, UX Design, Data Curation, Edge Computing, Robotics, and Cyber Ethics and Security.

A/T Courses

Develops skills and knowledge for CIT courses and university studies. Provides the assumed knowledge for IT based courses at university.

Course Patterns

Students can choose from 3 new courses: **Data Science**, **Robotics and Mechatronics**, and **Digital Technologies**.
These courses can be studied independently as a major or minor, or units from the 3 courses can be combined to complete a major or minor in Information Technology.
All courses include Unit 5 Negotiated Study.

Data Science A/T

This course focuses on developing a greater understanding our society through data analysis, statistical inference and related methods in order to understand and analyse phenomena. Students explore and develop solutions to interesting problems , forming opinions and challenging attitudes using data as evidence to form compelling and persuasive arguments. Cloud-based technologies have led to increasingly large data sets and big data and machine learning techniques now form the basis of automation in many fields of science, social science and the humanities, health and technology. Data science is the basis of recommendation algorithms, natural language processing, computer vision, artificial intelligence in games and embedded devices and many other modern scientific applications. Understanding the power of these analytical techniques and also the risks, challenges and ethical dilemmas they present, provides students with a solid foundation for further study, research and employment in a broad range of industries.

Units

Unit 1 Data Representation and Analysis

This unit explores the ways that digital information is encoded, represented, manipulated, stored, compressed and transmitted. Understanding where data comes from, having intuitions about what could be learned or extracted from it, being able to use computational tools to digitally manipulate data, visualise it and identifying patterns, trends, and communicate about it are the primary skills addressed in the unit.

Unit 2 Big Data Analysis and Techniques

The data-rich world that we live in introduces many complex questions related to public policy, law, ethics and social impact. The goal of this unit are to develop a well-rounded and balanced view about data in the world, including the positive and negative effects of it, and develop skills of how to use data analysis process, relevant algorithms and techniques and computational tools to analyse big data with multidisciplinary approach.

Unit 3 Machine Learning

This unit introduces the concepts of machine learning, and statistical pattern recognition, including Supervised learning, and Unsupervised learning. Students will learn how to apply learning algorithms to analyse datasets from a range of sources relevant to real life to build models or applications in order to predict or have social impacts.

Unit 4 Data Research Project

This practical unit develops skills that students need to acquire data to learn about the world that we are in and test hypotheses about patterns and relationships that might otherwise be invisible; how to use computational tools to quickly analyse vast amount of data and clearly present conclusion drawn from it and develop substantive complex computational artefacts, such as written, audio, video, web or robotics, which will be informative and maximise impact.

Digital Technologies A/T

Digital Technologies involves students creating new ways of doing things, generating their own ideas and creating digital solutions to problems of individual, community and global interest. Innovative solutions may take the form of a product, prototype, and/or proof of concept that allows for improvement or disruption of existing processes or products. Students may explore a single technology deeply or may consider many different technologies in pursuit of a solution.

Students are exposed to a range of strategies for managing projects and communicating their ideas from ideation to development and launch. Understanding collaboration with others and stakeholder input in the design of a product is a critical part of developing any solution, including the selection of appropriate technologies and platforms.

This course serves as a basis for further education and employment in the IT industry in fields including programming, web development, robotics and games development.

Units

Unit 1 Digital Assets

Students will develop the skills and knowledge required to interpret and create digital assets for a range of purposes and audiences. This could include the analysis of discrete components of existing processes and products and analysing how they interact within a system, as well as re-designing and developing assets. Students will learn about file system and content organisation architecture, design philosophies as well as fault finding and troubleshooting .

Unit 2 Programs and Platforms

Students will develop their algorithmic thinking skills in order to design and build systems that make use of the interconnected nature of various platform elements.

Unit 3 Digital Solutions

Students will develop their problem solving skills by working through the discovery process, interpretation, ideation, experimentation, visual and design thinking processes, and evaluation of design solutions.

Unit 4 Structured Project

Students will develop and refine their project management and design skills in order to develop and design solutions for projects that have a clearly defined structure. The project should be in an authentic context and may take a variety of forms, such as a program, game or website built to a set of provided criteria.

Robotics and Mechatronics A/T

The course introduces fundamental principles of both electronics and mechatronics before investigating microcontrollers that can be programmed to drive electrical circuits and mechanical systems.

Students apply their knowledge to the design and construction of real systems, examining how these solutions address problems, needs and challenges faced by individuals and societies. They design and program control software for autonomous and manual interfaces, correcting for noise and unexpected variations in data inputs and processing.

Robotics and Mechatronics aims to build theoretical and practical knowledge to prepare students for technical pathways such as engineering, IT, electronics and science.

Units

Unit 1 Building & Programming Circuits

Students will use design methodologies to investigate, strategise, prototype, evaluate and critically analyse the construction of electronic systems while practising Workplace Health and Safety compliance. Students will gain the skills and knowledge to apply the design process using electronics to create innovative and sustainable systems.

Unit 2 Digital & Analog Interactions

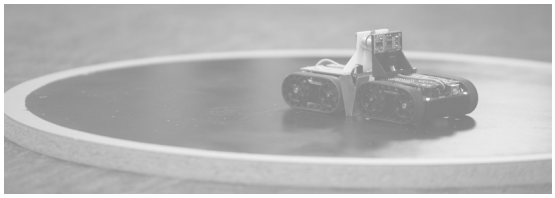
Students will investigate and program microcontrollers and control systems. Students will apply the design process to design interface circuits, prototype and construct systems to receive input and collect data from sensors and provide meaningful output.

Unit 3 Robotics & Mechatronic Systems

Students critically analyse the effect that robotics and mechanised systems have on human society, built and natural environments and general well-being. Student will use the design process to create and control a product/ solution incorporating mechanical, electrical and control systems.

Unit 4 Applications of Robotics

Students will use system architecture methodologies and the design process to complete a project; prototyping, constructing and evaluating an innovative system. Students will analyse their results and present their findings with justification.



Interdisciplinary and International Studies

Philosophy T

Philosophy is the study of humanity's most important and influential ideas. Through the study of philosophy we are pushed to question and interrogate how and why we make the decisions that we do.

What do we value? What do we consider to be true? What are our unconscious biases? How are we influenced by our parents, our teachers and society?

This course is built to develop and test students' critical thinking, problem solving and decision making skills, skills which are extremely valuable for success in the AST and highly sought after in 21 century workplaces. Students will work to challenge assumptions, to develop and present logical, reasoned and coherent arguments and to prepare for a life of learning.

Key Skills:

- Critical Analysis
- Challenge Assumptions
- Creative Ingenuity
- Academic Writing

Course Patterns:

The course is non-sequential and there are no prerequisites or compulsory units. All units must be studied as a T student. The course also includes Unit 5 Negotiated Unit for suitably qualified students.

Units:

Unit 1: Ethics

In this unit, students will study the nature of ethics. They will explore ethical questions and reflect on what constitutes a just society and 'the good life'. Students will develop a framework for understanding ethical positions.

Topics and philosophers discussed may include consequentialism, Mill and Bentham's utilitarianism, Aristotle's virtue ethics and Kant's categorical imperative. Students will also be challenged to question their own beliefs and moral and ethical frameworks, reflecting on the impact of their own ethical positions.

Unit 2: Epistemology

In this unit, students will study the nature of knowledge and the basis of knowledge claims. They will explore how we can know and the justification of knowledge. Students will also develop skills to evaluate knowledge claims.

This will include the study of rationalism, empiricism and scepticism and a reflection upon the relationship between the knower and the known. This includes understanding and applying different ways of knowing, such as reason, emotion, intuition, faith and tradition.

Unit 3: Metaphysics

In this unit, students will study the nature of existence and notions of reality. They will explore the relationship between being, meaning, personhood and human nature. Students will develop skills to explore the implications of metaphysical arguments relating to human existence.

This will include the study of topics and philosophers such as *Leibniz's Monadology, Heidegger's Being and Time, as well as Descartes' mind-body problem and work of Schopenhauer, which combines elements of Heraclitus, Spinoza and Buddhism.*

Unit 4: Philosophy of Language

In this unit, students will study the nature of language and meaning. They will explore how meaning is constructed and investigate the relationship between language, though, and the world. Students will develop understanding of how language can be shaped by, and construct, reality.

Students will get the opportunity to study both Frege's logicism and de Saussure's semiotics, which outline how the philosophy of language works in both analytic and continental philosophy respectively. We will also look at the role that language plays in the media and politics.

Global Studies A/T

By undertaking Global Studies, students come to appreciate the nature of global politics. They examine what can be achieved, and why there is a plurality of views on the decisions about progress and reform.

Students explore how its key participants respond to global challenges and collectively create opportunities for the betterment of the world. A focus of analysis is the choice between pursuing self-interest and the collective good. T

he course serves as a basis for further education, employment and active citizenship. Knowledge and skills developed in this course will contribute to further studies in courses such as: International Security Studies, International Relations, History, Human development, International Business, Political Science, Economics, Law and Communications.

The combination of Global Studies and Global Classroom are valuable for students who have an interest in politics, philosophy, journalism, diplomacy, cultural studies, science, legal studies, languages, humanities, economics, the arts, international relations, the United Nations and global citizenship.

Course Patterns

Minor: 2 to 3 units
Major: 3.5 or 4 units

Units

Global Actors

Students critically analyse the distinctive nature and origin of actors within contemporary global politics. They reflect on their role as citizens giving legitimacy to global actors through their decisions and beliefs. The choice of actors for study will include a range from different locations and spheres of influence eg transnational corporations, non-government organisations such as WHO in addition to leaders and governments

Global Processes

Students critically analyse the purpose, nature, and origins of global processes in the international order, and how these facilitate or impede relationships among global actors in many communities. Students reflect on their place, and their communities' role, in global processes in working towards the common good.

Global Challenges

Students critically analyse significant contemporary issues that pose challenges to global actors and processes, and to individuals around the world, as a result of processes employed by global actors to address issues and critique the resulting balance of power. They also question whether the mechanisms that regulate global behaviour effectively manage the tension between self-interest and collectivism.

Global Opportunities

Students analyse what progress and change can be achieved by global political action. They examine how the global system is perceived and used to improve lives for individuals and communities. Students evaluate possible pathways for progress and consider to whom current reform processes bring benefits. Students consider their preferred future, the actions necessary to achieve it, and why it would be better.

Negotiated Study

This independent research unit is available to students who have demonstrated high conceptual, cognitive and organisational outcomes in at least two previous 1.0 value units.

Extra– curricular:

Global Classroom (R unit)
Global Classroom is a registered unit (students are given credit points towards their Senior Secondary Certificate)

Run exclusively at UCSSC LG in conjunction with the Scottish Department of Education, the program consists of a network of international schools committed to Global education.

International excursions
Excursions are arranged to enable participation in the Global Classroom Conference every year. These excursions are not part of the A/T course, but offered as extension to all students at the college.

GPE

UCSSC Lake Ginninderra offers cutting-edge, inter-disciplinary programs.

One such program is the study of the Global Studies, Philosophy and Economics courses together in their academic program. The combination will help students to develop a greater understanding of the world around them and the forces which shape that world – politically, economically, socially and morally.

Each of these disciplines develops in students analytical, critical, logical and problem-solving skills, enabling them to apply their learning to a wide range of scenarios and situations.

This program offers a flexible collection of courses, which can be studied in any combination of majors and minors.

While a student who studies just one of these courses will gain an understanding of that discipline, it is in the integrated study of two or all three disciplines that students will achieve the greatest breadth and depth of understanding. Courses are available as Tertiary or Accredited (T/A)

Modern Languages

Modern Languages

The following languages may be studied :

Chinese Japanese Spanish

Why study a language?

Learning additional languages widens horizons, broadens cognitive and cultural experience, and develops communicative and intercultural capabilities. It also opens up new perspectives for learners, not only in relation to other cultures and languages, but also in terms of their own language and cultural practices.

Learning languages strengthens intellectual and analytical capability and enhances creative and critical thinking. Students develop an understanding of the nature of language (including linguistic and stylistic features), of culture, and of the process of communication. They develop understanding of how values and culture shape a learner's world view.

Learning languages extends the learner's understanding of themselves, their heritage, values, culture, and identity. Students develop intercultural capability; they develop understanding of, and respect for, diversity and difference, and openness to different perspectives and experiences.

Learning languages contributes to strengthening the community's social, economic, and international development capabilities. Students learn to reorganise their thinking to accommodate the structure of another language. They develop cognitive flexibility and problem-solving ability, which can be applied when problems and solutions are not evident, as well as when critical thinking and creative approaches are required.

Notes

Language courses are available at three levels based on language exposure and experience. Enrolment in Languages courses is subject to completion of BSSS Language proficiency paperwork, which is used to determine the level at which students are permitted to study their target language. This is a requirement for all ACT senior secondary schools.

All languages are A or T in the Beginning level. All languages are T only at Advanced level.

Chinese and Spanish are available at A or T level in the Continuing level.

Classes will be formed in all languages subject to viable student enrolment and teacher availability.

Beginning Courses are intended for students who have little or no previous knowledge of the language.

Continuing Courses are intended for students who have completed three or more years of study of the language. Previous knowledge of the language is necessary.

Advanced Courses are intended for students who have near native fluency.

Course Patterns

Minor (2 units) or major courses (3.5—5 units) may be formed.

Unit
Unit names and themes are common among the three language levels.

Beginning Modern Languages

Continuing Modern Languages

Advanced Modern Languages

Unit 1 The Individual

In this unit students learn about how relationships, and personal experiences shape identity. Students explore ways of belonging and reflect upon their own expression of identity through the target language.

Unit 2 Society and Community

In this unit students learn how different language communities are organized. They learn through the target language how to engage in diverse cultural practices and consider these in relation to their own. Students explore how to participate in society and the community

Unit 3 The Changing World

In this unit students learn how values and culture/s shape an understanding of, and interaction with issues that impact our world. Students explore, through the target language, challenges and opportunities to share responsibilities.

Unit 4 Diverse Perspectives

In this unit students learn how culture and language are expressed and appreciated in diverse mediums to communicate, sustain and challenge thinking, behaviour and systems. Students examine and demonstrate an awareness of perspectives. They explore, through the target language, a diversity of cultural expressions in the arts.

Unit 5 Negotiated Study
A negotiated study unit is available with teacher discussion.

Mathematics

The study of mathematics is not compulsory but is vocationally important and is a prerequisite for study in some courses at university and CIT.

Choose the course which best suits your needs. To make this decision you should talk to your maths teacher at high school, college maths teachers, and careers advisers. You should consider:

- your ability and interest in mathematics
- your performance in Year 10 mathematics
- the mathematical requirements of your career choice

There are six courses in mathematics:

Essential Mathematics A
Contemporary Mathematics A

Mathematical Applications T
Mathematical Methods T
Specialist Methods T
Specialist Mathematics T

ESSENTIAL MATHEMATICS A

Essential Mathematics 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 subject provides the opportunity for students to prepare for post-school options of employment and further training.

Course Patterns

Students can complete a major or a minor. Classes are mixed Year 11 and 12 classes using a rotating order of units each year.

Units

Unit 1 provides students with the mathematical skills and understanding to solve problems relating to calculations, applications of measurement, the use of formulas to find an unknown quantity, and the interpretation of graphs.

Unit 2 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.

Unit 3 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.

Unit 4 provides students with the mathematical skills and understanding to solve problems related to probability, earth geometry and time zones, and loans and compound interest.

CONTEMPORARY MATHEMATICS A

This course is designed to meet the needs of students who are not otherwise catered for in the new courses integrating the Australian Curriculum. The major themes of Contemporary Mathematics A/M are the numeracy skills students will require in employment post-college and to manage their personal finances.

Course Patterns

Enrolment by application. Students with numeracy basics select Essential Mathematics. Students can complete a major or a minor. Classes are mixed Year 11 and 12 classes using a rotating order of units each year.

Units

In **Unit 1**, students will study numeracy in the workplace (for example, income and payroll maths, workplace problem solving, mathematics for Industry and VET.

In **Unit 2**, students will study financial numeracy (for example, money management, banking and financial loans).

In **Unit 3**, students with study numeracy skills for living, for example - budget, tenancy, mathematics of transport and travel.

In **Unit 4,** students will study numeracy skills required for maintaining personal and supporting others' health. It includes, maths relating to nutrition, diet, medication and exercise.

MATHEMATICAL APPLICATIONS T

Mathematical Applications provides students with mathematical and statistical experience that includes and builds on the three strands of the F-10 curriculum.

Mathematical Applications 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 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.

Course Patterns

Students can complete a major or a minor. This course is sequential.

Units

Mathematical Applications is organised into four units. The topics in each unit broaden students' mathematical experience and provide scenarios for incorporating mathematical arguments and problem solving.

Unit 1 has three topics:

Consumer arithmetic reviews the concepts of rate and percentage change in the context of earning and managing money.

Algebra and matrices continues the F-10 study of algebra and introduces the new topic of matrices.

Shape and measurement extends the knowledge and skills students developed in the F-10 curriculum with the concept of similarity and associated calculations involving simple and compound geometric shapes. The emphasis is on applying these skills in practical contexts, including those involving three-dimensional shapes.

Unit 2 has three topics:

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

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

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

Unit 3 has three topics:

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

Growth and decay in sequences uses recursion to generate sequences to model and investigate patterns of growth and decay in discrete situations. These sequences are applied in practical situations, including modelling the growth of compound interest investments, the growth of a bacterial population or the decrease in the 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 Unit 4**.**

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

Unit 4 has three topics:

Time series analysis continues students' study of statistics by introducing them to the concepts and techniques of time series analysis. The content is 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.

MATHEMATICAL METHODS T

Mathematical Methods focuses on the use of calculus and statistical analysis. The study of calculus provides a basis for an understanding of the physical world involving rates of change, and includes the use of functions, their derivatives and integrals, in modelling physical processes. The study of statistics in Mathematical Methods develops the ability to describe and analyse phenomena involving uncertainty and variation. Students who enrol in this course will have demonstrated a very good level of aptitude and achievement in previous mathematics studies. The course has a challenging level of algebra , so it is expected that students have proven confidence and capability in Level 1 Year 10 Mathematics.

Course Patterns

Students can complete a major or a minor. This course is sequential. Students may study the **Mathematical Methods** course concurrently with the **Mathematical Applications** course.

Units

Mathematical Methods is organised into four units. The topics broaden students' mathematical experience and provide scenarios for incorporating mathematical arguments and problem solving. The units provide a blend of algebraic and geometric thinking. There is a progression of content, applications, level of sophistication and abstraction. The probability and statistics topics lead to an introduction to statistical inference.

Unit 1 begins with a review of the basic algebra required for successful study of functions and calculus. 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 probability and statistics begins with a review of the fundamentals of probability, and the introduction of the concepts of conditional probability and independence. The study of the trigonometric functions begins with a consideration of the unit circle using degrees and the trigonometry of triangles and its application. Radian measure is introduced, and the graphs of the trigonometric functions are examined and their applications are explored.

In **Unit 2**, exponential functions are introduced and their properties and graphs examined. Arithmetic and geometric sequences and their applications are introduced and their recursive definitions applied. 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, geometrically, and algebraically. This first calculus topic concludes with derivatives of polynomial functions, using simple applications of the derivative to sketch curves, calculate slopes and equations of tangents, determine instantaneous velocities, and solve optimisation problems.

In **Unit 3**, the study of calculus continues by introducing the derivatives of exponential and trigonometric functions and their applications, as well as some basic differentiation techniques and the concept of a second derivative, its meaning and applications. The unit includes integration, both as a process that reverses differentiation and as a way of calculating areas. The fundamental theorem of calculus as a link between differentiation and integration is emphasised. Discrete random variables are introduced, together with their uses in modelling random processes involving chance and variation.

In **Unit 4**, the logarithmic function and its derivative are studied. Continuous random variables are introduced and their applications examined. Probabilities associated with continuous distributions are calculated using definite integrals. In this unit students are introduced to one of the most important parts of statistics, namely statistical inference, where the goal is to estimate an unknown parameter associated with a population using a sample of that population. In this unit, inference is restricted to estimating proportions in two-outcome populations.

SPECIALIST METHODS T

Specialist Methods focuses on the development of the use of calculus and statistical analysis. The study of calculus in Specialist Methods provides a basis for an understanding of the physical world involving rates of change, and includes the use of functions, their derivatives and integrals, in modelling physical processes. The study of statistics in Specialist Methods develops the ability to describe and analyse phenomena involving uncertainty and variation. Students who enrol in this course will have demonstrated a high level of aptitude and achievement in previous mathematics studies. The course has a challenging level of algebra, so it is expected that students are confident and capable in the algebra skills of the Australian Curriculum 10A course (or equivalent).

Course Patterns

Students can complete a major or a minor. This course is sequential. Students can complete a major-minor or double major in Specialist Mathematics by studying Specialist Methods in conjunction with Specialist Mathematics (only).

Units

Specialist Methods is organised into four units. The topics broaden students' mathematical experience and provide different scenarios for incorporating mathematical arguments and problem solving. The units provide a blending of algebraic and geometric thinking. In this subject there is a progression of content, applications, level of sophistication and abstraction. The probability and statistics topics lead to an introduction to statistical inference.

Unit 1 begins with a review of the basic algebraic concepts and techniques required for a successful introduction to the study of functions and calculus. 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 the trigonometric functions begins with a consideration of the unit circle using degrees and the trigonometry of triangles and its application. Radian measure is introduced, and the graphs of the trigonometric functions are examined and their applications in a wide range of settings are explored. The study of probability begins with a review of the fundamentals and the introduction to the concepts of conditional probability and independence. The study of probability and statistics allows students to further develop their counting techniques in combinatorics in Specialist Mathematics.

In **Unit 2** exponential functions and logarithms as their inverses are introduced and their properties and graphs examined. Arithmetic and geometric sequences and their applications are introduced and their recursive definitions applied. 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), geometrically (as slopes of chords and tangents), and algebraically. This first calculus topic concludes with derivatives of polynomial functions, using simple applications of the derivative to sketch curves, calculate slopes and equations of tangents, determine instantaneous velocities, and solve optimisation problems.

In **Unit 3** the logarithmic function is studied in more detail. The study of calculus continues by introducing the derivatives of exponential and trigonometric functions and their applications, as well as some basic differentiation techniques and the concept of a second derivative, its meaning and applications. The aim is to demonstrate to students the beauty and power of calculus and the breadth of its applications. The unit includes integration, both as a process that reverses differentiation and as a way of calculating areas. The fundamental theorem of calculus as a link between differentiation and integration is emphasised. Derivatives of logarithmic and exponential functions are explored.

In **Unit 4** simple linear regression is considered for bivariate data. Discrete random variables are introduced, together with their uses in modelling random processes involving chance and variation. The purpose here is to develop a framework for statistical inference. Continuous random variables are introduced and their applications examined. Probabilities associated with continuous distributions are calculated using definite integrals. In this unit students are introduced to one of the most important parts of statistics, namely statistical inference, where the goal is to estimate an unknown parameter associated with a population using a sample of that population. In this unit, inference is restricted to estimating proportions in two-outcome populations. Students will already be familiar with many examples of these types of populations.

Students studying Specialist Methods (only) may also study **Specialist Mathematics** to form a major minor or double major in Specialist Mathematics, according to the requirements in the Specialist Mathematics course.

SPECIALIST MATHEMATICS T

Specialist Mathematics provides opportunities, beyond those presented in Specialist Methods, to develop rigorous mathematical arguments and proofs, and to use mathematical models more extensively. Specialist Mathematics contains topics in functions and calculus that build on and deepen the ideas presented in Specialist Methods. Specialist Mathematics also extends understanding and knowledge of probability and statistics and introduces the topics of vectors, complex numbers and matrices.

Specialist Mathematics is the only mathematics subject that cannot be taken as a stand-alone subject.

Course Patterns

Students can complete a major-minor or double major in Specialist Mathematics studying it in conjunction with Specialist Methods. A minor or major are not available in this course.

Units

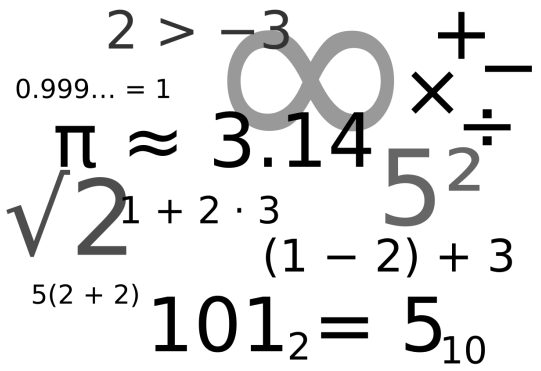
Specialist Mathematics is structured over four units. The topics in Unit 1 broaden students' mathematical experience and provide different scenarios for incorporating mathematical arguments and problem solving. The unit provides a blending of algebraic and geometric thinking. In this subject there is a progression of content, applications, level of sophistication and abstraction. For example, vectors in the plane are introduced in Unit 1 and then in Unit 3 they are studied for three-dimensional space. In Unit 3, the topic *Vectors in three dimensions* leads to the establishment of the equations of lines and planes, and this in turn prepares students for solving simultaneous equations in three variables.

Unit 1 contains three topics that complement the content of Mathematical Methods. The proficiency strand, 'Reasoning', of the F–10 curriculum is continued explicitly in the topic *Geometry* through a discussion of developing mathematical arguments. This topic also provides the opportunity to summarise and extend students' studies in Euclidean Geometry, knowledge which is of great benefit in the later study of topics such as vectors and complex numbers. The topic *Combinatorics* provides techniques that are very useful in many areas of mathematics, including probability and algebra. The topic *Vectors in the plane* provides new perspectives on working with two-dimensional space, and serves as an introduction to techniques which can be extended to three-dimensional space in Unit 3.

Unit 2 contains three topics, *Trigonometry*, *Matrices* and *Real and complex numbers*. *Matrices* provides new perspectives for working with two-dimensional space, *Real and complex numbers* provides a continuation of the study of numbers. *Trigonometry* contains techniques that are used in other topics in both this unit and Units 3 and 4. All of these topics develop students' ability to construct mathematical arguments. The technique of proof by the principle of mathematical induction is introduced in this unit.

Unit 3 contains three topics, *Complex numbers*, *Vectors in three dimensions,* and *Functions and sketching graphs.* The Cartesian form of complex numbers was introduced in Unit 2, and in Unit 3 the study of complex numbers is extended to the polar form. The study of functions and techniques of calculus begun in Mathematical Methods is extended and used in the sketching of graphs and the solution of problems involving integration. The study of vectors begun in Unit 1, which focused on vectors in one- and two-dimensional space, is extended in Unit 3 to three-dimensional vectors, vector equations and vector calculus, with the latter building on students' knowledge of calculus from Mathematical Methods. 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.

Unit 4 contains three topics: Integration *and applications of integration, Rates of change and differential equations* and *Statistical inference*. In this unit, the study of differentiation and integration of functions is continued, and the techniques developed from this and previous topics in calculus are applied to the area of simple differential equations, in biology and kinematics. These topics demonstrate the applicability of the mathematics learnt throughout this course. Also in this unit, all of the students' previous experience in statistics is drawn together in the study of the distribution of sample means. This is a topic that demonstrates the utility and power of statistics.



MATHEMATICS COMPETITIONS

Students are encouraged to participate in a number of Mathematics Competitions; including: ACT Year 12 Maths Day at ANU, University of NSW Maths Competition, Australian Maths Competition.

Physical Education

Exercise Science A/T

Course content is based on the applied sciences of anatomy, physiology, and the biomechanical analysis of movement, including sporting activity. The course also focuses on sport performance and nutrition and certain areas of athlete mental preparation and physical rehabilitation.

Lake Ginninderra College utilises a vast range of platforms both theoretical and practical to deliver Exercise Science. Unit content is learned through interactive slideshows embedded in the Google environment. Students will complete workshops in the strength and conditioning facility and be shown the latest apps on smart devices to sharpen their knowledge of the human body. In addition, students will be provided opportunities to access and participate in the UC Rise program at the University of Canberra. This program uses state of the art facilities and provides exposure to laboratory testing to determine VO2 max performance and functional anatomy labs using cadavers.

Course Patterns

This course is not sequential. Students wishing to join the course after Unit 1 will be admitted to the course at the discretion of the head of faculty. However, it is preferable for students to complete the units in the order set out below.

Units

The units outlined below are semester length (value 1.0) and can be broken down further into term units (value 0.5). The units can be studied in any particular order, there is no prior knowledge required.

Unit 1 Anatomy & Physiology of the Human Body

Students study the basic organisation of the human body (cells, tissues, organs, systems) and then study in more depth the structure and function of the circulatory and respiratory systems.

Students become familiar with anatomical and movement terminology and study the structure and function of the skeletal, articular, muscular and nervous systems.

Movement analysis is then carried out through the study of muscles and the actions involved in specific exercises.

Unit 2 Preparation for Training & Performance

Students study the importance of physical health and performance and identify various aspects of physical fitness such as components of fitness, methods and principles of training, and methods of testing and evaluating these components.

In addition, students study the workings of the digestive system and the relationship between food intake and energy expenditure. Students will also study the importance of a balanced diet and sound nutrition practice of an elite athlete.

Unit 3 The Body in Motion

Students examine the nervous system and its role in muscular contractions, the interdependence of the three energy systems during physical activity and the physiological responses and adaptations of the body to exercise and training.

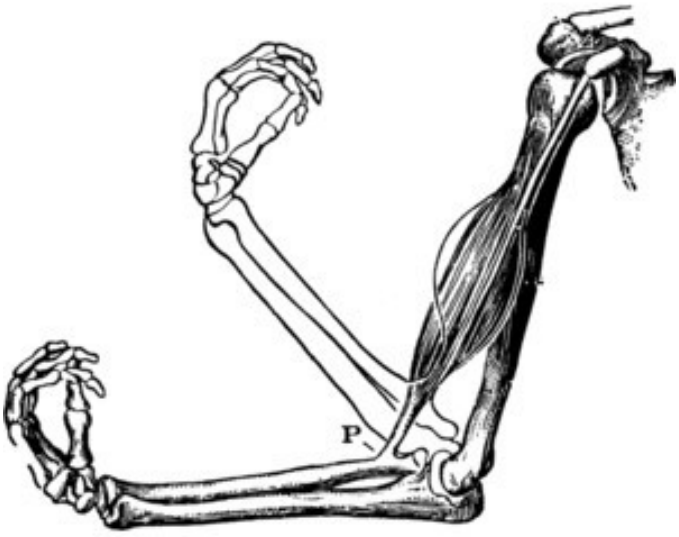
Students define and apply principles of physics relating to bodies in static and dynamic situations and examine the significance of the laws of motion e.g. forces, gravity, levers, velocity. Through practical involvement and observation students will gain an understanding of the physical principles relating to human movement.

Unit 4 Factors Affecting Performance

Students explore the physiological healing process and apply it to various types of sports related injuries. Students will also examine the causes, prevention, treatment, massage and taping, management and rehabilitation of sports related injuries.

In addition, students research motivation and athletic performance, goal setting and tactics, stress management, the relationship between activation and concentration, and mental preparation including motor imagery in sport and personality theory.

Unit 5 Negotiated Study
A negotiated unit is available for qualified students.



Health & Wellbeing A/T

This course focuses on the various influences on health and broader wellbeing.

Course content will allow students to develop skills and knowledge to understand the role of health in the context of society and the mechanisms necessary to promote health for individuals and communities at national and global levels.

Students analyse health and lifestyle trends and patterns across a range of contexts, allowing the potential for students to enhance their own and others' health and wellbeing.

Health & Wellbeing T

This course is relevant to students who intend to pursue tertiary studies in the community development and allied health sectors.

Health & Wellbeing A/M

This course is relevant to students who intend to pursue vocational study at institutions such as UC College and CIT. The course also provides students with skills to apply for traineeships or employment as allied health assistants, administrators and support staff in the health and community development sectors.

Units

The units outlined below are semester length (value 1.0) and can be broken down further into term units (value 0.5). The units can be studied in any particular order, there is no prior knowledge required.

Unit 1 Individual Human Health

Students will examine the indicators and determinants of their health and investigate individual human development across the lifespan.

They will make evaluations regarding the influences on individuals, such as media, and reflect on personal and social actions to promote and improve health outcomes.

Unit 2 Health in Australia

Students will explore health promotion in Australia, review the priority health areas and investigate major causes of ill-health.

Students will evaluate public and private contributions to Australian health care and explore the different support professions and organisations and their role in promoting health and wellbeing in Australia.

Unit 3 Health of Populations

Students will study the health status of various populations and examine concepts which can be applied to address health inequities.

Students will study different cultural perceptions and approaches to health and wellbeing.

Unit 4 Global Health and Human Development

Students will examine the role of international organisations including the UN and WHO in combating inequality.

Students explore current issues on global health and review strategies designed to promote health and sustainable human development globally, as well as government and non-government contributions to international health programs.

Unit 5 Negotiated Study
Available for qualified students.

Physical Education Studies

The Physical Education Studies course is based on the study of biological, physiological, psychological, social and cultural influences on performance and participation in physical activity. Students develop knowledge, understanding and skills, including physical literacy, to support them to be resilient, to strengthen their sense of self, to build and maintain relationships, and to make decisions to enhance their health and physical participation.

Lake Ginninderra College utilises a range of methods both theoretical and practical to deliver Physical Education Studies. Unit content is learned in a practical setting at college and the recreational facilities situated in John Knight Park. Physical Education Studies also access facilities of our surrounding partners including University of Canberra, Belconnen Community Centre and Club Lime. Students have access to interactive resources embedded in the Google environment to complete theoretical tasks.

Physical Education Studies A/M

This course is relevant to students who intend to pursue a pathway in the sport and health industry. Students can progress to vocational study at institutions such as UC College and CIT. The course also provides students with skills to apply for employment in data collection, sports retail and as development officers in the sports industry.

Units

The units outlined below are semester length (value 1.0) and can be broken down further into term units (value 0.5). The units can be studied in any particular order.

Physical Education Studies focuses on practical activity and will allow students to participate in a wide range of sports and recreational activities.

Unit 1 Building & Improving Teams

Students explore and develop skills associated with the enhancement of teams. They understand the importance of individuality, social cohesion, teamwork and collaboration, shared values, inclusive activity, conflict resolution, team tactics and strategies and participation.

Unit 2 Sport, Activity, Culture & Society

Students explore a range of sports and activities that contribute to individual, societal and cultural identity. Students study culturally diversity, morals and ethics, social change, political agendas, traditions and symbolism in sport, role of the media and myths and stories in universal sports.

Unit 3 Sports Skill Acquisition

Students explore the acquisition and development of sports skills.by analysing human movement, spatial awareness, modelling and imitation, principles of motor skill, stages of learning and the reflex arc.

Unit 4 Leisure & Recreation

Students develop an understanding of physical activity, recreation, leisure and sport from a participatory perspective. Students explore and examine play, state of mind, rejuvenation and relaxation, social cohesion, community programs, accessibility of sport facilities and inclusivity.

Unit 5 Negotiated Study

Available for qualified students,

Sport Recreation & Leadership

Course content is based on the knowledge and skills required to work in the sport and recreation industry including fitness planning and instruction, sports coaching, sports first aid, industry work health and safety and coordination of sport events. The course is broken into four units that have competencies attached. Successful completion of all four units listed below and their competencies will allow students to achieve a Certificate II in Sport & Recreation.

Lake Ginninderra College utilises a range of theoretical and practical methods to deliver Sport Recreation & Leadership. Unit content is learned through interactive documents included in the Google environment. Students complete practical workshops in nearby fitness facilities and can achieve first aid qualifications through college partners. In addition, students will be provided opportunities to coordinate school sport and community events and conduct coaching sessions for primary school students.

Sport Recreation & Leadership A/V

This course is relevant to students who intend to pursue further vocational or tertiary qualifications in fitness, sports development, and sport and recreation.

Sport Recreation & Leadership A/M

This course is relevant to students who intend to pursue vocational study in sport and recreation. The course also provides students with skills to apply for employment in sports retail, sports officers and administrators in the sports industry.

Units

The units outlined below are semester length (value 1.0) and can be broken down further into term units (value 0.5). The units can be studied in any particular order. Students must successfully complete all units and competencies in order for students to achieve the certificate II in sport and recreation.

Unit 1 Sport & Recreation Industry

Students study the four sectors within the sport and recreation sector, structure of sporting organisations, sport and the law, economic and social significance of sport, diversity in sport and the impact of emerging technologies.

Students will undertake a sports first aid certificate and gain knowledge and understanding of CPR, duty of care, medical illnesses, sport injuries and early treatment of illness and injury.

Unit 2 Community Activities & Events

Students study a range of leadership styles and develop interpersonal skills. Through organisation and participation in recreation activities students will develop team building skills, activity implementation, safe work practices and marketing strategies for community programs and sessions.

Unit 3 Sports Coaching & Management

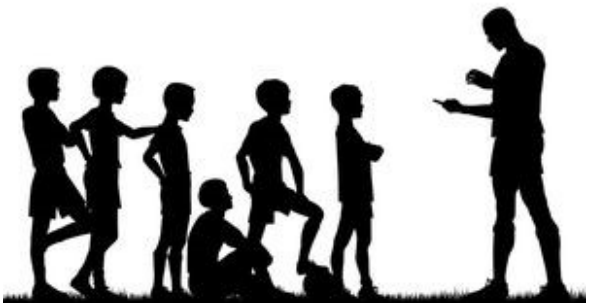
Students study the roles and responsibilities of coaches and the range of coaching styles. Students become familiar with code of ethics, coaching accreditation, stages of learning, game and technique centred approach, skill development, planned coaching, activity modifications and communicating with participants.

Students will examine and explore the differences coaching specific populations such as children, veterans, women and people with disabilities.

Unit 4 Active Lifestyles & Sports Leadership

Students examine the importance of safe physical activity and identify areas of physical fitness such as components of fitness, principles and methods of training, benefits of exercise, testing protocols, client screening, exercise planning and group exercise.

Students will lead and participate in group fitness sessions and conduct health screening and exercise induction for clients. Students explore and evaluate a range of fitness exercises to design programs for specific populations.



Sports Development A/T

Otherwise known as the 'Elite Sports Program', Sports Development is an integrated study that focuses on specialised sports development for the individual. Students learn about principles of high performance, self awareness and understanding of their prowess in an individual sport. They learn about and practice ways of maintaining elite performance. This course prepares students aspiring to participate in elite sport.

Lake Ginninderra College offers this course to students who are developing or potential elite athletes or officials participating in ACT level 'satellite' programs, aiming to assist students to develop in both their academic and sporting endeavours.

The study of Sports Development provides pathways to further study in both tertiary and vocational areas as well as providing foundations for future involvement in elite sport as a competitor, official or administrator.

Students who apply for this course will be actively training and competing at a state or national level.

Historically this course has been offered as Accredited. Since 2019 , Sports Development offers a **Tertiary option** for students wanting a more academically challenging course that can count towards their ATAR. The program will also continue to provide pastoral care to students assisting with balancing the demands of training without compromising their study goals.

Units

Personal Development in a Sport

Students will explore time-management, lifestyle balance, academic pursuits, training, work and social interactions in the context of developing and maintaining an elite athlete.

Building an Elite Athlete

Students will explore personalising programs, individual and/or team development, nutrition, psychology and recovery in the in the context of developing and maintaining an elite athlete.

Athletes in Society

Students will explore issues in sport, drugs, community expectations of athletes, as well as community, national and global environments in the context of developing and maintaining an elite athlete.

Performance Analysis

Students will explore technology in sport, injury management and prevention, biomechanics, tactics, game analysis and feedback in the context of developing and maintaining an elite athlete.

Student's Role

The student meet on a regular basis with Sports Development staff to provide evidence of participation in their chosen sport to monitor progress.

Each student will maintain an online training diary, which summarises his/her weekly progress, involvement and participation. Diary completion is monitored by staff and is submitted at the end of each unit.

For the award of grades students are also expected to complete assignments related to the topics presented in the Sports Development curriculum along with a practical skills evaluation and attendance form completed by the Sporting Organisation that the student is involved in. This feedback on athlete training and development and competition progress is essential for accurate and relevant assessment.

Excursion Opportunities

Elite Sports students are offered the opportunity to attend major excursions in their time at Lake Ginninderra.

Melbourne: Students visit and compete against Sports Colleges in a range of sports as well as professional club environments and elite training/playing facilities.

New Zealand: Students visit and compete against select NZ Schools in Basketball and Volleyball as well as participate in recreational activities.

In addition, Basketball, Futsal & Volleyball school teams are provided multiple opportunities to play in regional, state and national tournaments.

Basketball

The Basketball program has an outstanding record with success in competitions at local, national and international level. The men's and women's 'Lakers' have won the Champion School of Australia competition a number of times.

Futsal

In conjunction with the Physical Education Sport Specific R Unit, Lake Ginninderra enters girls and boys teams in NSW regional single day qualification tournaments and then attend an overnight excursion to the State Finals held in Penrith.

Volleyball

Members of the boys and girls Volleyball programs compete in the ACT Schools Championship then prepare for the Australian Schools Volleyball Cup held in Melbourne annually.

Outdoor Education/ Recreation

Outdoor and Environment T

Outdoor & Environment provides students with skills and knowledge to understand the role of the environment in mental health and physical wellbeing. It provides skills allowing students to safely and respectfully participate in physical activity in diverse outdoor environments. It allows students to understand the concept of discriminating between risk and challenge and to develop social and leadership skills. Students develop insights into environmental sustainability, particularly in local contexts. This course prepares students for lifelong physical and recreational activity as well as employment pathways.

Students develop skills to improve their own and others' health, well-being and physical activity opportunities. Students develop analytical and critical thinking skills and learn to question and challenge assumptions about the environment and physical activity in the outdoors. They develop skills to communicate effectively and present logical and coherent arguments. Such knowledge has the potential for students to enhance their own and others' health and well-being in varied and changing contexts.

The study of Outdoor and Environmental Education provides pathways to further study in both tertiary and vocational areas as well as providing foundations for life-long enjoyment of the outdoors and respect for the environment.

This course should enable students to:

- analyse, outdoor and Environmental Education theories, concepts, principles, methodologies, assumptions, perspectives and ideas
- analyse the nature and purpose of health, outdoor and physical education and the impact of factors that influence self, others and well-being
- analyse values and attitudes and evaluate their influence on health and outdoor education
- communicate in a range of modes and mediums for specific purposes and audiences
- reflect on and apply concepts, skills and strategies.

Units

Unit 1: Discover Outdoor Environments
Unit 2: Planning and Management
Unit 3: Responsibility of Self and Others
Unit 4: Sustainable Outdoor Recreation
Unit 5: Negotiated Study

Unit 1 Discover Outdoor Environments:

Students explore the environment and its features through participating in outdoor activities in the natural environment. Students learn about the role of the environment in promoting mental health and physical well-being. They work with others to respectfully and safely participate in activities in diverse outdoor environments, building knowledge, skills, self-efficacy and appreciation of natural places.

Unit 2 Planning and Management:

Students are involved in planning for participation in an expedition or an activity. Students learn to plan all aspects required for participation in an expedition or one or more activities. Students will also evaluate the risks involved in the activities and learn to develop risk management and emergency response plans (such as completing a first aid course) appropriate to the activity

Unit 3 Responsibility of Self and Others:

Students explore the relationships between people and the environment, teamwork, leadership and individual learning characteristics. These are explored through a variety of outdoor activities, and the choice of appropriate methods applied to individual activities.

Unit 4 Sustainable Outdoor Recreation:

Students learn about the sustainable use of wilderness environments and the importance of healthy outdoor environments. Students develop their philosophy on adventure, connection to wilderness environments and the use of technology in outdoor recreation and various outdoor settings.

Outdoor Recreation C

An action packed course that is extremely popular. Leading the way in Outdoor Education, this is the only course of its type in the ACT / NSW region.

There is a balance of theory and practical. Content includes recreation skills (skiing, caving etc.), knowledge of the natural environment (marine, alpine, bush, caves etc.) and personal and interpersonal skills.

This course is aimed at students who have an interest in outdoor recreation and the natural environment, or who may be considering careers in the recreation/environment or related industries or who wish to add some challenging and fun activities into their academic program.

This may include entry to various outdoor education, recreation, teaching or environmental studies courses at university, teaching courses with a recreation component, recreation leadership courses at CIT, tourism, land management, resort employment, childcare, parks and wildlife, defense forces, etc.

Outdoor Recreation actively engages students in intellectual, social, emotional and physical development and learning through participation in physical, recreational and sporting activities.

Students will be provided with a range of opportunities to engage in practical, active learning experiences across a variety of environments, allowing students to develop the necessary skills, knowledge and understanding through experiential learning to move safely and competently. This also assists in the development of positive relationships with others and valuing the environment.

This course supports the development of self-reliance and personal responsibility for the safety, health and wellbeing of self and others and contributes to effective teamwork and the development of targeted technical skills. This in turn supports the development of these characteristics/ attributes/qualities in students contributing to life and employability skills for the Outdoor Recreation industry.

Outdoor Recreation is an integrated area of study that addresses content across several learning areas. It is uniquely placed to address the general capabilities and cross curriculum priorities of the Australian curriculum, particularly personal and social capability, critical and creative thinking, ethical understanding, Aboriginal and Torres Strait Islander Histories and Cultures and Sustainability.

This course responds to the needs of the Outdoor Recreation industry, the availability of relevant and appropriate training, education opportunities and employment pathways. It also reflects the diverse range of elective units of competency from the SIS10 Sport, Fitness and Recreation Training Package, allowing students to specialise in particular activity sectors, undertake general employment or further training. Students are able to undertake the following Australian Qualifications Framework (AQF) qualifications:
SIS20213 Certificate II in Outdoor Recreation
Statement of Attainment in Outdoor Recreation (Cert III competencies)

Outdoor Education C - A small sample of elective units.

Note: there are more than 20 units to cater to the different activities and ability levels in this course.

These units will introduce students to a wide range of outdoor experiences such as snorkelling, surfing, scuba diving, bushwalking, rock climbing, canoeing, snowboarding and cross country skiing.

Students will also develop skills in navigation, first aid, survival and leadership. In addition to a course fee, other costs are incurred for the First Aid examination, excursions and equipment hire. Costs are kept to a minimum through qualified staff, use of own gear, and no costs for organisation of relief teachers.

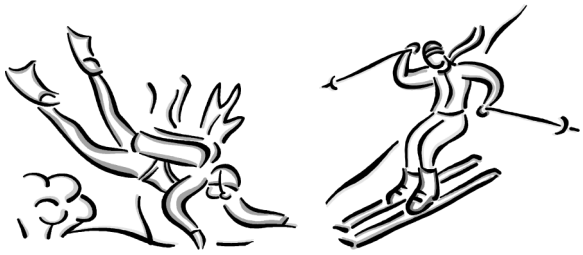
Course Patterns

Students are able to enroll in any of the following units subject to availability. Students can also use these units as enrichment and extension of the Outdoor and Environmental Studies T course.

Units
Caving

In this unit students learn to carry out safe procedure as a member of a caving team, assess and prioritise their needs for caving, demonstrate an understanding of and ability to apply the attitudes and techniques vital to safe and enjoyable participation in caving and related rope activities.

Students safely and confidently apply basic skills of movement in caves, demonstrate an understanding of the special nature of the cave environment and how to care for it and demonstrate a minimal impact conservation ethic.



Rock Climbing

In this unit students learn to carry out safe procedure as a member of a climbing team, assess and prioritise their needs for climbing, demonstrate an understanding of and ability to apply the attitudes and techniques vital to safe and enjoyable participation in climbing and related rope activities. Students safely and confidently apply basic skills of movement on rock, follow general safety precautions at a climbing site, use and understand climbing signals and terminology and gain experience in top rope climbing and some seconding. Extension units: Seconding, Lead Rock Climbing.

SCUBA

In this unit students learn to assess and prioritise their needs for scuba diving, demonstrate an understanding of and ability to apply the attitudes and techniques vital to safe and enjoyable participation in scuba diving and related activities and successfully complete the requirements necessary for the awarding of a recognised open water scuba diving certificate. Extension unit: Advanced Scuba.

Surfing

In this unit students learn to assess and prioritise their needs for surfing, demonstrate an understanding of, and ability to apply the attitudes and techniques vital to safe participation in surfing and related activities and demonstrate at all times and in all situations a minimal impact conservation ethic.

Cross Country Skiing

In this unit students demonstrate a basic understanding of equipment, clothing, safety procedures, and emergency procedures and demonstrate an understanding of and ability to apply the attitudes and techniques vital to safe and enjoyable participation in cross country skiing and related activities.

Outdoor Recreation Leadership
In this unit students learn to work with a group to plan and take part in an expedition of at least six days duration.

Students assess and prioritise their needs for an expedition, develop specific fitness and skills and knowledge in preparation for an expedition experience and review and evaluate their planning process.

Students demonstrate an understanding of and ability to apply the attitudes and techniques vital to safe and enjoyable participation in the expedition activities and they further refine and enhance existing outdoor skills and apply these skills in situations requiring progressively greater technical skill.

Field Trips

Typical field trips include:

- Surfing (South Coast)
- SCUBA and snorkelling (Jervis Bay and Merimbula)
- Climbing (ACT, Nowra, Point Perpendicular)
- Backcountry skiing, boarding (Snowy Mountains)
- Hiking (Snowy Mountains , Budawangs, Namadgi)
- Caving (Bungonia and Wee Jasper)
- Canoeing and kayaking (Murrumbidgee and Clyde River)
- Mountain biking (Brindabellas)
- Multi Sport Adventure
- Nullarbor Caving (WA)
- Barrier Reef Snorkelling and Diving (QLD)
- Odyssey Multi-Sport NSW
- Arapiles Climbing (VIC)

Science

Somewhere, something incredible is waiting to be known.
Carl Sagan (1934 -1996)

Biology T

This practical course enables students with an interest in Biology to study it at an advanced level. It is appropriate for students intending to pursue careers in areas such as physiology, nursing, paramedical or medical sciences, wildlife biology, zoology, botany, genetics, biochemistry, forestry, and environmental sciences.

Course Patterns

All units are sequential, to achieve a minor students will need to successfully complete; **Unit 1:** Biodiversity and Interconnectedness and **Unit 2:** Cells and Multicellular Organisms. A major will consist of the units above and **Unit 3:** Heredity & Continuity of Life and **Unit 4:** Maintaining the Internal Environment.

Units

In Biology, students develop their understanding of biological systems, the components of these systems and their interactions, how matter flows and energy is transferred and transformed in these systems, and the ways in which these systems are affected by change at different spatial and temporal scales.

There are four units:

Unit 1: Biodiversity and Interconnectedness: students analyse abiotic and biotic ecosystem components and their interactions, using classification systems for data collection, comparison and evaluation.

Unit 2: Cells and Multicellular Organisms: students investigate the interdependent components of the cell system and the multiple interacting systems in multicellular organisms.

Unit 3: Heredity & Continuity of Life: students investigate mechanisms of heredity and the ways in which inheritance patterns can be explained, modelled and predicted; they connect these patterns to population dynamics and apply the theory of evolution by natural selection in order to examine changes in populations.

Unit 4: Maintaining the Internal Environment: students investigate system change and continuity in response to changing external conditions and pathogens; they investigate homeostasis and the transmission and impact of infectious disease at cellular and organism levels; and they consider the factors that encourage or reduce the spread of infectious disease at the population level.

Human Biology T

Human Biology covers the functioning of the human body. Students learn about themselves, relating structure to function. They learn how integrated regulation allows individuals to survive in a changing environment and maintain homeostasis. They research discoveries that are increasing understanding of the causes of dysfunction, which can lead to new treatments and preventative measures. Reproduction and the development of the foetus are studied to understand the sources of variation that make us unique individuals.

Course Patterns
Units are sequential. A minor requires Unit 1: The Essentials of Human Life, Unit 2: The Aging Human Body
To achieve a major students will also need to complete: Unit 3: The Aging Human Body, Unit 4: Treating the Human Body

Units

In Human Biology, students develop their understanding of the structure (anatomy) and the function (physiology) of human tissue from cellular through to organ level. Students also explore human health as affected by changes in cell structure, pathogens or other environmental factors.

The Human Biology course uses the human life cycle as a means to create a close link between personal experience and theoretical content for students.

Unit 1: The Essentials of Human Life :Students are introduced to the study of human embryonic tissue and its specialisation and development as well as the health implications and the latest developments in gene therapy and stem cell research. The anatomy and physiology of epithelial, connective, muscular and nervous tissues provide a strong basis for the study of the human body.

Unit 2: The Aging Human Body: Students study the body through reproduction, foetal development and each stage of aging. Students investigate the diseases and conditions which affect humans at different stages of development.

Unit 3: Human Health and the Environment: Students examine the relationship between environmental conditions and human health, focussing on physical, biological, chemical and social risks. Mental health is increasingly important and the variety of conditions are dealt with respectfully.

Unit 4: Treating the Human Body: Students study the exponential growth of research and knowledge about the functioning of the human body that informs the Western mode of treating illness, and also consider alternative ways of treating illness in Australia. The veracity of alternative diagnosis and treatment methods will be interrogated. Students will use their scientific inquiry skills to explore the principles of diagnosis and treatment of illness, by investigating real world cases.

Chemistry T

Chemistry is an essential choice if you intend to proceed to tertiary level study in almost all fields of science, engineering and health sciences. Some of the major challenges and opportunities facing Australia and the Asia-Pacific region at the beginning of the 21st Century are inextricably associated with chemistry. Issues of sustainability on local, national and global levels are, and will continue to be, tackled by the application of chemical knowledge, using a range of technologies.

Students wanting an overview of the subject should study a Minor comprising of the two Year 11 units. Those wishing to prepare adequately for tertiary studies in related areas should complete a major.

Course Patterns

The course is sequential in Years 11 and 12.

Minor - **Unit 1:** Chemical Fundamentals, **Unit 2**: Molecular Interactions and Reactions

Major - The above units, **Unit 3**: Equilibrium, Acids and Redox Reactions, **Unit 4**: Structure, Synthesis and Design.

Prerequisites are Level 1 or the upper grades of Level 2 Year 10 Science and Maths.

Units

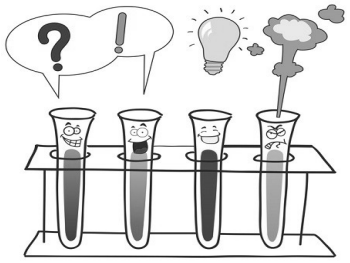
Year 11

In Chemistry, students develop their understanding of chemical systems, and how models of matter and energy transfers and transformations can be used to describe, explain and predict chemical structures, properties and reactions.

There are four units:

Unit 1: Chemical Fundamentals: students use models of atomic structure and bonding to explain the macroscopic properties of materials and to predict the products and explain the energy changes associated with chemical reactions.

Unit 2: Molecular Interactions and Reactions: students continue to develop their understanding of bonding models and the relationship between structure, properties and reactions, including consideration of the factors that affect the rate of chemical reactions.



Year 12

In Units 3 and 4, students further develop their knowledge of chemical processes introduced in Units 1 and 2, including considering energy transfers and transformations, calculations of chemical quantities, rates of reaction and chemical systems.

Unit 3: Equilibrium, Acids and Redox Reactions: students investigate models of equilibrium in chemical systems; apply these models in the context of acids and bases and redox reactions, including electrochemical cells; and explain and predict how a range of factors affect these systems.

Unit 4: Structure, Synthesis and Design: students use models of molecular structure, chemical reactions and energy changes to explain and apply synthesis processes, particularly with consideration of organic synthesis; and they consider current and future applications of chemical design principles.

More About Chemistry

Chemistry is the study of matter and its reactions. As such it provides an insight into what things around us are made of and how they are made. The nature of the subject ensures that practical work is an integral part of the course.

It is an enabling course which is fascinating in its own right as well as underpinning medicine, metallurgy, environmental studies, food processing, agriculture, forensics, oceanography, genetic engineering, veterinary science, conservation of art materials, wine making and many others.

The course is sequential in Years 11 and 12 you must complete both units to obtain a minor. A major in Chemistry may entitle you to advanced standing at CIT.

Examples of people who use Chemistry in their work include

Forensic Scientists	Vets
Doctors/Nurses	Engineers
Physiotherapists	Dentists
Chiropractors	Geologists
Biochemists	Pharmacists
Oceanographers	Science Teachers
Biologists	Environmental Scientists

Physics T

This course is designed to develop an understanding of the fundamental concepts of physics together with the skills of problem solving, report writing and communication. Students will need to have good mathematical skills. Physics is essential for careers in physics and engineering and recommended for others such as architecture, medicine and design.

Course Patterns

This course is sequential in Years 11 and 12.

Minor - Unit 1: Linear Motion & Waves, Unit 2: Thermal, Nuclear & Electrical Physics

Major - The above units, Unit 3: Gravity and Electromagnetism, Unit 4: Revolutions in Modern Physics

Prerequisites

Level 1 Year 10 Science and Maths, or, A/B grades in Level 2 Year 10 Science and Maths. Year 12 units have pre-requisite requirements. You should check with your teacher before selecting any Year 12 unit.

Note: This course is a rigorous introduction to Physics and would be best understood if Mathematical Methods or higher is also studied.

Units

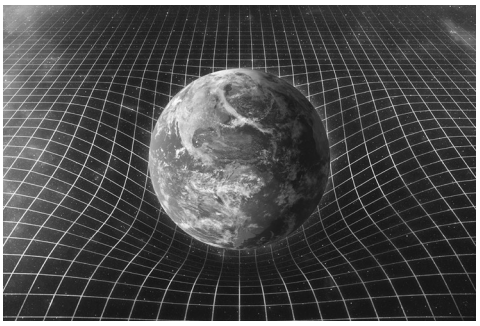
Year 11

Unit 1:
Linear Motion & Waves: students describe, explain and predict linear motion, and investigate the application of wave models to light and sound phenomena.

Unit 2:
Thermal, Nuclear & Electrical Physics: students investigate energy production by considering heating processes, radioactivity and nuclear reactions, and investigate energy transfer and transformation in electrical circuits.

Year 12

Unit 3:
Gravity and Electromagnetism: students investigate models of motion in gravitational, electric and magnetic fields to explain how forces act at a distance, and use the theory of electromagnetism to explain the production and propagation of electromagnetic waves.



Unit 4:
Revolutions in Modern Physics: students investigate how shortcomings in existing theories led to the development of the Special Theory of Relativity, the quantum theory of light and matter, and the Standard Model of particle physics.

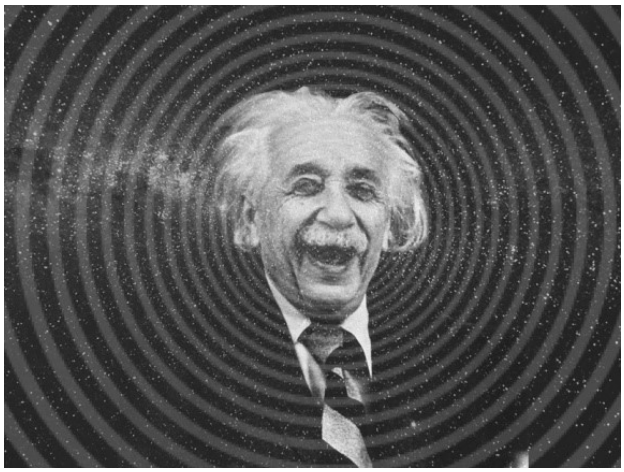
More about Physics

Physics is the area of knowledge that is concerned with the structure of the universe and the best explanations of natural phenomena.

An understanding of physics underpins all branches of science. Its processes, attitudes and values are powerful ways of generating new ideas. Studying this subject will develop your ability to carry out scientific enquiry with creativity, responsibility, confidence and competence

To succeed in this course you will need good mathematical skills and should also be studying the Mathematics Methods course, or achieving very good results in Mathematics Applications.

This course is essential for a wide variety of careers in science. Satisfactory completion of the course may also entitle you to advanced standing at CIT.



Earth and Environmental Science T

Earth and Environmental Science is a multifaceted field of inquiry that focuses on interactions between the solid Earth, its water, its air and its living organisms, and on dynamic, interdependent relationships that have developed between these four components. Earth and environmental scientists consider how these interrelationships produce environmental change at a variety of timescales.

The course provides students with a suite of skills and understandings that are valuable to a wide range of further study pathways and careers. Both at CIT/TAFE or University.

Course Patterns
This course is non-sequential and units are 1.0 units.

Units

Unit 1: Introduction to Earth Systems

The Earth system involves four interacting systems: the geosphere, atmosphere, hydrosphere and biosphere. Students study the processes that formed the oceans and atmosphere. Students will examine the formation of soils at Earth's surface (the pedosphere) as a process that involves the interaction of all Earth systems.

Unit 2: Earth Processes

Students examine how the transfer and transformation of heat and gravitational energy in Earth's interior drive movements of Earth's tectonic plates. They analyse how the transfer of solar energy to Earth is influenced by the structure of the atmosphere; how air masses and ocean water move as a result of solar energy transfer to cause global weather patterns; and how changes in these atmospheric and oceanic processes can result in anomalous weather patterns.

Unit 3: Living on Earth

In this unit, students explore renewable and non-renewable resources and analyse the effects that resource extraction, use and consumption and associated waste removal have on Earth systems and human communities.

Unit 4: The Changing Earth

In this unit, students examine the cause and effects of naturally occurring Earth hazards including volcanic eruptions, earthquakes and tsunami. They examine ways in which human activities can contribute to the frequency, magnitude and intensity of Earth hazards such as fire and drought. This unit focuses on the timescales at which the effects of natural and human-induced change are apparent and the ways in which scientific data are used to provide strategic direction for the mitigation of Earth hazards and environmental management decisions.

Interdisciplinary Science A/T NEW

There is an innate human curiosity and desire to understand the universe. The study of Science encourages and enables students to develop an understanding of the universe through observation, questioning, experimentation, discussion, critical analysis and creative thinking.

The subject explores ways in which scientists work collaboratively and individually in a range of integrated fields to increase understanding of an ever-expanding body of interconnected scientific knowledge.

The study of Interdisciplinary Science equips students with the skills to be independent thinkers and life-long learners who are confident to pursue a wide range of study pathways and careers. Students that undertake Interdisciplinary Science have a general interest in science as a subject and are looking to have a broad package without necessarily specialising in a particular field of science.

Units

Unit 1: Scientific Controversies

Scientific controversy may be explored through investigation of one or more scientific issues, topics or case studies. Students will study scientific a controversy or controversies that have significant interdisciplinary elements.

Unit 2: Hidden Science

Hidden science may be explored through investigation of one or more scientific issues, topics or case studies. Students will study the hidden science that has significant interdisciplinary elements.

Unit 3: Science In Context

Students will learn that scientific breakthrough is developed and applied within a context. Students analyse contextual factors contributing to past discoveries and research such as culture, geography, economics, and other factors. Science in context may be explored through investigation of one or more scientific issues, topics or case studies. Students will study the science in context that has significant interdisciplinary elements.

Unit 4: Science Innovations

Students will investigate and evaluate current or emerging scientific research to determine the feasibility of solutions and their ethical implications. Innovative science may be explored through investigation of one or more scientific issues, topics or case studies. Students will study the scientific innovation that has significant interdisciplinary elements.

Unit 5: Negotiated Study

Available to qualified students.

Senior Science A

Senior Science is a course that prepares you for the workforce and deals with current issues in Science. There is an innate human curiosity and desire to understand the universe. The study of Senior Science encourages and enables students to develop an understanding of the universe through observation, questioning, experimentation, discussion, critical analysis and creative thinking.

Students explore key concepts and models through active enquiry into phenomena and through contexts that exemplify the role of Science in society. They learn how an understanding of Science is central to the identification of, and solutions to, some of the key issues facing an increasingly globalised society. The subject explores ways in which scientists work collaboratively and individually in a range of integrated fields to increase understanding of an ever-expanding body of scientific knowledge.

Scientific processes challenge current understanding and are continually re-evaluated. Students are constantly encouraged to examine and reconsider their understanding of scientific concepts, their inquiry methods and phenomena.

The study of Science equips students with the skills to be independent thinkers and life-long learners who are confident to pursue a wide range of study pathways and careers.

Course Patterns

This course is non-sequential and units are 1.0 units. Unit 5 : Negotiated Study is available by negotiation after a minimum of two units are satisfactorily completed.

Units

For a standard (1.0) unit, any of the electives listed for each unit may be chosen in no particular order by the school. For the half standard (0.5) unit, students investigate a selection of topics within any one standard (1.0) unit.

Unit 1: Biological Senior Science (Living Organisms)
Electives may include:

Gardening Science, In this elective, students will study: structure and function of plants. seeds and fruit, plant reproduction – asexual and sexual, pest and weed control, propagation of plants, soil fertility, composting, growing vegetables, planning seasonal gardens, native and exotic plants, garden tool use and maintenance.

Forensic Science, In this elective, students will study: crime scene and evidence. fingerprint characteristics, blood composition and splatter patterns, DNA profiling, entomology, hair and fibres, castings, ballistics, soil composition, chromatography, drug analysis and poison.

Unit 2: Environmental Senior Science (Our Changing Planet)
Electives may include:

Sustainability, In this elective, students will study: defining sustainability, renewable resources, recycling, sustainable food production, building design, cutting greenhouse emissions, pollution in the home, waste disposal, energy efficiency within the home, sustainable housing,

Astronomy, In this elective, students will study: the night sky, astronomy vs astrology, telescopes and tools, star navigations, satellites and emerging technologies, origin of the universe, galaxies and their formation, star lifecycles, the solar system and its formation, earth moon system

Unit 3: Chemical Senior Science (Chemistry In Action)
Electives may include:

Household Chemistry, In this elective, students will study: acids, bases and salts and their role in the house, detergents soaps and their nature, dyes, bleaches and paints, baking soda and yeast, fermentation, storage and handling of household chemicals, medicines, disposal of household chemicals and waste, chemical reactions and the cooking process, food storage and hygiene

Hair Care and Cosmetics, In this elective, students will study: structure and properties of hair, requirements for healthy hair, chemical composition of shampoos and conditioners, structure and properties of the skin, requirements for healthy skin, allergies and disorders of the skin, skin care products, perfumes and essential oils, make up and its application, animal testing ethics, nail care

Unit 4 Physical Senior Science (Physics in our lives)
Electives may include:

Transport, In this elective, students will study: fuel types and combustion, internal combustion engine, rockets and ramjets, Newton's three laws of motion, speed and acceleration, aerodynamics and design, consequences of collision, braking distances, environmental impact, vehicle design features for safety and fuel efficiency, biological impact of weightlessness and space travel, emerging transport technologies

Light and Sound, In this elective, students will study: wave physics, sound waves and their properties, musical instruments, the structure and function of ears, the nature of light waves, the electromagnetic spectrum and its applications, reflections, refractions and dispersion, optical instruments and cameras, structure and function of eyes, lasers and their applications, fibre optics

Electricity, In this elective, students will study: electrical currents and fields, electric circuits, alternating and direct currents, voltage, current and resistance, energy usage in the home, electrical safety in the home, conductors and insulators, generation of electricity, alternative energy sources and generators, distribution of electricity.

Special Programs

For all special programs information visit

www.lakeonline.act.edu.au

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