

Sciences

Subject	Hours	TCE credit points	EAS LIT	EAS NUM	EAS ICT	Recommended prior studies and/or entry requirements	Locations
Human Biology or Marine Biology Level 2	150	15				no previous experience, but enjoy science	WS HC
Physical Sciences - Foundation Level 2	150	15				no previous experience, but enjoy science	TH HC
Transdisciplinary Science Level 2	150	15				no previous experience, but enjoy science	TH
Physical Sciences Level 3	150	15			✓	an <i>Above Expected Standard</i> or higher in Year 10 Science, Maths and English	HC
Biology Level 3	150	15				an <i>Above Expected Standard</i> or higher in Year 10 Science and English	HC
Environmental Science Level 3	150	15				an <i>Above Expected Standard</i> or higher in Year 10 Science and English	WS HC
Transdisciplinary Science Level 3	150	15			✓	an <i>Above Expected Standard</i> or higher in Year 10 Science and English	TH
Chemistry Level 4	150	15			✓	a CA in Physical Sciences 3 or equivalent, and a strong background in Maths Level 3	HC TH
Physics Level 4	150	15			✓	a CA in Physical Sciences 3 or equivalent, and a strong background in Maths Level 3	TH HC
AHC20122 Certificate II in Agriculture (Huonville High School via external provider 60142)	300	30+				an <i>At Expected Standard</i> or higher in Year 10 Science and English	HH
SFI20119 Certificate II in Aquaculture (Huonville High School via external provider 60142)	300	30+				an <i>At Expected Standard</i> or higher in Year 10 Science and English	HH
HSCDECYP Introduction to Nursing (Skill Set 1)	150	15+				an <i>At Expected Standard</i> or higher in Year 10 Science and English	HC
HSCDECYP VET Introduction to Nursing (Skill Set 2)	150 or 300	15+ or 30+				- an <i>At Expected Standard</i> or higher in Year 10 Science and English - Can be undertaken in Year 12 only	HC



Human Biology or Marine Biology Level 2

What will I learn?

- cell structure and function
- biochemical processes
- structure and function of organism systems (including humans and plants)
- genetics
- biodiversity and ecology
- the scientific method, experimental design
- impact of biology on society

How will I learn and be assessed?

- practical investigations, field trips and projects, including use of specialised equipment in our science laboratories
- a mix of student-directed and teacher-directed investigations
- assignments, project reports and short tests

Other

- a stand-alone science subject for Year 11 or Year 12 students, or may lead to studies in Biology 3/Environmental Science 3 in Year 12
- numbers permitting, the course will be delivered in two themed streams - one with a Human Biology focus and the other centred on Marine Biology

Physical Sciences - Foundation Level 2

What will I learn?

- basic principles and applications of chemistry and physics including atomic structure, chemical reactions, properties of materials, the laws of motion, force and energy
- ways to use technology and mathematical modelling when describing natural processes
- the role and impact of physics and chemistry in society

How will I learn and be assessed?

- practical investigations, field trips and projects, including use of specialised equipment in our science laboratories
- a mix of student-directed and teacher-directed investigations
- assignments, project reports and short tests

Other

- a stand-alone science subject for Year 11 or 12, or may lead to studies in Physical Sciences 3 in Year 12
- recommended for students who enjoy practical science, or would like a year consolidating their science knowledge before entering a pre-tertiary science course in Year 12

Transdisciplinary Science Level 2

What will I learn?

- about science concepts that are relevant locally and globally, in order to choose a scientific inquiry topic
- how to plan, conduct and refine scientific experiments as part of a scientific inquiry
- how to collect and analyse data
- how to research, plan and communicate in the context of a scientific inquiry

How will I learn and be assessed?

- through practical work, excursions and independent research
- develop, conduct and communicate findings for an individual scientific inquiry
- a write up and short presentation of your findings

Other

- a great course for students interested in experimental work in science, with scope for choosing a project of your choice
- ideal alongside any other science course, or as a stand-alone course for motivated students

Physical Sciences Level 3

What will I learn?

- principles and applications of chemistry, including atomic structure, chemical reactions, chemical structures and properties of materials
- principles and applications of physics, including radioactivity, motion, force, energy, and electrical circuits
- practical skills including laboratory work and using mathematical processes
- the role and impact of physics and chemistry in society

How will I learn and be assessed?

- theory work, demonstrations and practical investigations in our laboratories
- assignments, practical reports, short essays and tests
- mid-year internally assessed exam and an externally assessed exam

Other

NB: A minimum achievement of a CA award in Physical Sciences 3 is the prerequisite for enrolment in Chemistry 4 and Physics 4.

Biology Level 3

What will I learn?

- biochemical processes and cell regulation
- homeostasis - maintaining a stable internal environment
- immunology
- reproduction and genetics
- evolution
- the scientific method and experimental design
- the role and impact of biology on society

How will I learn and be assessed?

- practical investigations, including use of tools such as microscopes. A mixture of student-directed and teacher-directed investigations.
- assignments, practical reports, short essays and tests
- mid-year internally assessed exam and an externally assessed exam

Environmental Science Level 3

What will I learn?

- ecological processes and the changes to ecosystems locally and globally, including climate change
- how humans depend on and impact on ecosystems
- the scientific method, experimental design
- the role and impact of environmental science in society

How will I learn and be assessed?

- practical investigations in the laboratory and local field trips with a mixture of student-directed and teacher-directed investigations.
- assignments, practical reports, short essays and tests
- mid-year internally assessed exam and an externally assessed exam

Transdisciplinary Science Level 3

What will I learn?

- about science concepts that are relevant locally and globally, in order to choose a scientific inquiry topic
- about systems, including mathematical concepts linked to electronics
- how to plan, conduct and refine scientific experiments as part of a scientific inquiry, researching, evaluating and measuring digital and analogue circuits
- how to collect and analyse data
- how to research, plan and communicate in the context of a scientific inquiry

How will I learn and be assessed?

- through practical work, excursions and independent research
- develop, conduct and communicate findings for an individual scientific inquiry
- externally assessed via a folio including an inquiry plan, scientific report, and the presentation of a scientific poster

Other

- a great course for students interested in experimental work in science, with scope for choosing a project of your choice
- ideal alongside any other science course, or as a stand-alone course for motivated students



Chemistry Level 4

What will I learn?

- principles and applications of chemistry, including electron configuration, organic chemistry, gas behaviour, electrochemistry, reaction kinetics, equilibrium and thermochemistry
- practical skills including laboratory work and using mathematical modelling of processes
- the role and impact of chemistry in society

How will I learn and be assessed?

- theory work, demonstrations and practical investigations in our laboratories
- assignments, practical reports, short essays and tests
- mid-year internally assessed exam and an externally assessed exam

Other

- Chemistry 4 is a prerequisite for many tertiary courses, please check with each university for more information

Physics Level 4

What will I learn?

- principles and applications of physics, including Newtonian mechanics, gravitational fields, electromagnetism, waves, properties of light and nuclear physics
- practical skills including laboratory work and mathematical modelling of processes
- the role and impact of physics in society

How will I learn and be assessed?

- theory work, demonstrations and practical investigations in our laboratories
- assignments, practical reports, short essays and tests
- mid-year internally assessed exam and an externally assessed exam

Other

- Physics 4 is a prerequisite for many tertiary courses, please check with each university for more information

AHC20122 Certificate II in Agriculture*

What will I learn?

- the knowledge and skills to gain employment in the Primary Industry Sector
- animal husbandry and monitoring
- First Aid
- to operate basic farm machines and maintenance
- to install, maintain and repair farm fencing

How will I learn and be assessed?

- practical and theory assessments in both class and on-site farm environments
- observations both on-site and at host farms

Other

- this is a Certificate II delivered in partnership with TasTAFE and Huonville High School
- this Certificate is delivered across two years
- practical and theory assessments will take place at the Huon Valley Trade Training Centre and at other sites.

*Subject to Service Agreement arrangements, TasTAFE Reg. 60142, will be the registered training organisation for this qualification. Course delivery is subject to sufficient demand and a confirmed service agreement with TasTAFE.



SFI20119 Certificate II in Aquaculture*

What will I learn?

- workplace health and safety requirements in the aquaculture industry
- effective communication techniques
- to use a diverse range of workshop machinery and equipment
- industry specific skillset.

How will I learn and be assessed?

- practical hands-on experiences
- theory-based learning delivered by teachers with industry experience

*Subject to Partnering Agreement arrangements, Seafood Maritime Tasmania (SMT), RTO Code 7074, will be the registered training organisation for this qualification. Training is conducted by the Huon Valley Trade Training Centre and issuance is by SMT.

HSC00030 Introduction to Nursing

(Skill Set 1)

What will I learn?

- what it is like to work as a nurse in a hospital and look after a patient
- how to work with diverse people, behaviour management and the community, workplace health and safety, legal and professional responsibilities in the healthcare system
- Skills such as bedmaking, routine cleaning, infection control precautions

How will I learn and be assessed?

- verbal and open book written assessments
- assessments in hospital simulation environment

Other

- this course is delivered over one line (150 hours)
- Ideal for students in Year 11 who are interested in a nursing pathway
- Students may enrol in both Skill Set 1 and Skill Set 2 in Year 12 only.
- Credit toward Diploma of Nursing
- This is a pathway through the School Recommendation Program for entry to the Bachelor of Nursing at UTAS

HSC00030 Introduction to Nursing

(Skill Set 2)

What will I learn?

- what it is like to work as a nurse in a hospital and look after a patient
- medical terminology, body systems, how to observe and assess a patient, organisational skills, ward routines, and numeracy tasks in patient care
- safely moving patients, and equipment management
- First Aid

How will I learn and be assessed?

- verbal and open book written assessments
- assessments in a hospital simulation environment

Other

- this course is delivered over one line (150 hours)
- Students may enrol in both Skill Set 1 & Skill Set 2 in Year 12 only
- credit towards Diploma of Nursing
- This is a pathway through the School Recommendation Program for entry to the Bachelor of Nursing at UTAS

