Welcome to Career Insights

The delayed tropical wet this year has seen soaring temperatures in Australia causing the drier southern forests and lands to burn whilst parts of Indonesia flood. When there’s greater heat in the atmosphere and oceans, it causes increased fires, flooding, winds, dying coral, and melting icecaps. Using maths as a powerful tool; physics, chemistry and biology help us to understand why, what is happening, and what we can do. Tasmania, as the international gateway (with the Australian Antarctic Program and CSIRO’s ocean and climate centre) leads the world in this work.

We’re featuring Natural and Physical Sciences as it’s one of the 12 fields of study in Australia. We will be telling you what this broad area of study covers, what you can study in Tasmania and some of the career options it provides.

Don’t Miss Out:
What’s On In February

South
Who: Australian Defence Force Careers
What: Parents and Teachers Information Session
When: 26th February from 6.00 - 8.00pm
Where: Anglesea Barracks, Davey St, Hobart

North
Who: Australian Defence Force
What: Parents and Teachers Information Session
When: 18th February from 6.00 - 8.00pm
Where: 50 Glen Dhu St, South Launceston

Online
Who: eBeacon Industry Live
What: ‘Choose your career’ online teleconference
When: 20th February from 12.30 - 1.30pm
Where: Video-conference: ebeacon.net.au/industrylive/
WHAT IS A CAREER?

A career is a variety of experiences that you have undertaken throughout your life. As you gain more experience in the worlds of work and life, you are building your career. Your career path takes account of your education, training and paid or unpaid work. It also includes your family and life roles, activities, volunteer work, community involvement and more.

What are ‘career’ decisions?
At various times during your school years you will make ‘career’ decisions, in fact, you’ve probably already made them without realising. Here are some examples of ‘career’ decisions:

- Choosing co-curricular (student council representative, debates, drama productions, sports teams) or extra-curricular activities (Scouts, Cadets, martial arts)
- Deciding whether to get a part-time job
- Choosing your first career step after finishing school
- Choosing a post-school education and training course
- Deciding whether to study a Vocational Education and Training course (VET) at school or college
- Deciding whether to do an Australian School-based Apprenticeship (ASbA) or Traineeship
- Making school subject choices
- Choosing between TasTAFE, the University College, University of Tasmania, the Australian Maritime College or Foundry after Year 12

Events and programs coming up this year:

Creating My Career
Provides students with a practical hands-on approach exploring what a chosen career actually looks like.

Working on Water for Years 9 and 10 students
A program that explores a wide range of professions in and around the marine environment, including the seafood industry, marine sciences and tourism.

Pathways into Building and Construction
An annual educational program delivered by Master Builders Tasmania to inform students and parents about the variety of career options in the industry.

e-Beacon Industry Live
A series of live streamed learning sessions with panelists sharing their experiences of their job and their pathway into employment.

My Road
A program that gives young people the opportunity to engage with volunteer mentors from many different jobs and industries. This helps to better understand career paths available and the changing world of work.

Where do I start exploring career options?
Your school or college is likely to run several events during the year that can help you get information to help you explore career and subject options.

- INFORMATION SESSIONS
- COURSE TASTER ACTIVITIES
- MENTORING PROGRAMS
- WORK EXPOSURE OPPORTUNITIES
- GUEST SPEAKERS
- CAREER EXPO
- SCHOOL OPEN DAYS AND ORIENTATION DAYS
5 PLACES TO STUDY AFTER YEAR 12

POST-SCHOOL EDUCATION AND TRAINING IN TASMANIA

‘Tertiary education’ refers to further education and training provided to students after year 12. Tasmania’s five main education and training providers are:

**UTAS**

**Perfect for:** Independent learners who like academic study and want a professional career or who like research or are uncertain of what occupation they want to do specifically.

**Benefits:** Improves employability, with transferrable skills applicable to many occupations.

**What it’s like:** There is a focus on academic learning at university (i.e. Arts, Economics, Science) but some courses are academic and more practical (i.e. Fine Arts, Architecture, Nursing).

**Explore here:** [https://www.utas.edu.au/study](https://www.utas.edu.au/study)

- The five faculties and four specialist institutes offer a range courses
- Qualifications include Diploma, Associate Degree and Bachelor degree, PHD, Masters

**TASTAFE**

**Perfect for:** Preparing students for employment, updating work skills, developing new skills for work and preparing for a promotion or career change.

**Benefits:** Quickly builds industry-specific skills that are in demand.

**What it’s like:** Generally involves hands-on and practical learning and training for work.

**Explore here:** [https://www.tastafe.tas.edu.au/courses/](https://www.tastafe.tas.edu.au/courses/)

- 250 courses and qualifications
- Certificates I-IV, Diploma and Advanced Diplomas
- 18 study areas

UTAS also has 2 campus in Sydney
For more UTAS campus details [https://www.utas.edu.au/campuses/maps](https://www.utas.edu.au/campuses/maps)

TasTAFE has 12 campuses
For more TasTAFE campus details [https://www.tastafe.tas.edu.au/campuses/](https://www.tastafe.tas.edu.au/campuses/)
THE UNIVERSITY COLLEGE

Perfect for: Preparing students for employment or may provide entry into some University of Tasmania Bachelor degree courses.

Benefits: Courses are linked to current and emerging Tasmanian industry skill requirements.

What it's like: There is a strong focus on work-integrated learning that combines academic learning in a study area with its practical application in the workplace.

Explore here: https://www.utas.edu.au/college/courses

The University College is a faculty of the University of Tasmania. 11 courses in Diploma or Associate Degrees

AUSTRALIAN MARITIME COLLEGE (AMC)

Perfect for: Preparing students for employment in the maritime industry.

Benefits: It’s a specialist education and research institution.

What it's like: It has both an academic focus as well as practical hands-on training and education for work.

Explore here: VET courses https://www.amc.edu.au/study/coastal/vet or higher education courses https://www.amc.edu.au/study/undergraduate

Provides training in Vocational Education and Training (VET) i.e. Certificates I-IV and Diploma, to Diploma, Associate Degree or Bachelor degree qualifications

FOUNDRY

Perfect for: Preparing students for work in key creative fields.

Benefits: Delivers industry relevant courses.

What it's like: Delivers practical courses alongside creative day conferences where industry experts around Australia speak to students about their experiences as a creative.


Provides courses in Certificate III, Diploma and Associate Degree Qualifications in partnership with UTAS and Swinburne University

What will your school do for National Careers Week?

National Careers Week is where schools, community groups, businesses and organisations run events to celebrate all things careers and pathways. Its aim is to help people explore, prepare for and make informed choices about learning, work and leisure throughout their life. Events can showcase industries, explore current and emerging career opportunities, discuss world of work changes, and related education and training courses.

Running from May 18 – 24 now is the time to start planning. What could your school do?


Register your careers event in National Careers Week: https://careersweek.com.au

Live stream industry panellists into your school

The Beacon Foundation runs Industry Live information sessions via videoconferencing technology. Expert industry panellists share their stories, top tips for success, and answer questions from school students across Australia in a discussion led by a facilitator.

The Industry Live events for Term 1:

20th February, 12.30-1.30pm
Choose your career - So you don’t know what you want to be when you leave school?

3rd March, 12.30-1.30pm
Apprenticeships from start to finish - How to get and complete an apprenticeship and the realities of being an apprentice.

18th March, 1.00-2.00pm
Hotels, Hospitality & Holidays - Accommodation, food services and tourism are major growth areas with many different roles available.

2nd April, 1.00-2.00pm
Jobs that help others - Would you like a career that gives back and helps others such as disability
Applying to study for Medicine, Dentistry or Clinical Sciences in 2021?

If you’re in Year 12 and planning to apply to study Medicine, Dentistry or Clinical Sciences in 2021, you’ll need to register and make a booking to sit the Universities Clinical Assessment Test (UCAT).

UCAT is one requirement for entry into the Bachelor of Medicine/Bachelor of Surgery degree at the University of Tasmania and other universities in Australia and New Zealand. You can find a list of universities and courses that require UCAT on the UCAT ANZ website: https://www.ucat.edu.au/ucat-anz/universities/.

UCAT is conducted in various cities and towns in Australia, the testing locations are available here: https://www.ucat.edu.au/ucat-anz/registration-booking/test-centre-locations/.

UCAT is a 2-hour computer-based test, consisting of 5 subtests:

- Verbal Reasoning
- Decision Making
- Quantitative Reasoning
- Abstract Reasoning
- Situational Judgment


It’s important that you become familiar with the test format and style of questions you will be asked. There are many excellent practice materials available on the UCAT website: https://www.ucat.edu.au/ucat-anz/practice-tests/.

Registrations and test bookings: open from 2nd March 2020 - 11th May 2020

Registration fee: $299.00 (concession $199.00*)

Late registrations and bookings: accepted until 18th May 2020 with an additional late fee of $75.00

Please note, at the time of registration you will book your test for July 2020

*Concession Scheme: Holders of a Health Care Card from Centrelink or students who are dependents listed on a Health Care Card may be eligible for a concession. Registrations for the Concession Scheme opened on 3rd February 2020. For more information see: https://www.ucat.edu.au/ucat-anz/concession-scheme/.

Special access: Some students may need special access arrangements in the form of test accommodations such as extra time, rest breaks or a separate room (if available). Access arrangements are explained on the UCAT website: https://www.ucat.edu.au/ucat-anz/access-arrangements/.

UCAT results will be forwarded to universities in early September 2020.

Pathways for Entry into Medicine at the University of Tasmania

If you think you might like to be a Medical Doctor, there are several steps you need to go through to be eligible for entry into the Bachelor of Medicine and Bachelor of Surgery course at the University of Tasmania.

**YEAR 10**

- Research medicine and health careers and courses and subject prerequisites
- Attend career information events
- Prepare your transition plan with your TCE and Medicine at UTAS in mind

**YEAR 11**

- Continue researching careers and courses
- Continue to attend career information events
- Study level 3 Physical Sciences & a level 3 English among your TCE subjects

**YEAR 12**

- Study Chemistry level 4 and if needed a level 3 English in your TCE subjects
- Get your TCE and an ATAR of 95+
- Apply for UCAT March-May
- Practice for UCAT
- Sit UCAT July
- Attend career and course events
- Apply for Medicine by 30 September
- Apply for accommodation and scholarships
- Await TCE and ATAR results
- Wait for first round offers

Note: you need to apply for university separately to your UCAT registration and booking.

University applications - open 1st August 2020 – 30th September. The University of Tasmania will not accept applications for medicine and surgery after 30th September 2020, so make sure you apply in time.

Top tip: See your school or college Career Advisor or My Education Coordinator for the full details on eligibility and application procedures for the Bachelor of Medicine and Bachelor of Surgery.
Bachelor of Science at the University of Tasmania

The flexibility in the University of Tasmania’s Bachelor of Science degree makes it an ideal option for those who are certain they want to go to university, enjoy science but are not sure about what area of science they want to specialise in. There is scope to try out new Science subject areas or to find your passion and give shape to your career goals after graduation.

The Bachelor of Science at the University of Tasmania offers 17 majors and 18 minors, which cover several specializations:

Major or Minors
- Aquatic Biology
- Biochemistry
- Chemistry
- Computer Science
- Ecology
- Food Safety
- Genetics
- Geographic Information Systems and Remote Sensing
- Geography and Environment
- Geology
- Mathematics
- Microbiology
- Physics
- Plant Science
- Psychological Science
- Statistics and Operations
- Data Technology (available as a minor)

For more information on the Bachelor of Science majors and minors check out the University of Tasmania Course guide here [link](https://courses.itas.edu.au/__data/assets/pdf_file/0016/223450/UTAS-Domestic-Course-Guide-2020.pdf) or ask at your school or college career resource area.

A major is a specialist area of study you focus on over three years of a Bachelor degree. For example, you may study a Bachelor of Science with a major in Chemistry. A degree will have eight study units (just so you know, study units are the same as subjects).

A minor is a secondary specialist study area within a degree. It will have four study units that are usually two introductory and two intermediate level units. A minor can shape your degree with a career interest or passion in mind. For example, you may do a Bachelor of Science degree with a major in Chemistry and a minor in Food Safety.

Electives units are subject areas you may be interested in, that are not part of your chosen major or minor. In years 2 and 3 you can study up to six units of your choice from any area within the university. If you wish you could do a Bachelor of Science with a major in Chemistry and a major in Food Safety. Alternatively, you can use electives to study units outside your course. For example, you could do a Bachelor of Science with a major in psychological science and student electives from the School of Business and Economics. Meaning you could be a Registered Psychologist who sets up their own business as a clinical psychology practice.

Each university will have slightly different rules, so always best to check with the university where you would like to study.
Career Options with a UTAS Bachelor of Science Degree

1. Specialist knowledge - Geologist, Maine Biologist, IT Systems Developer.

2. Broad understanding of science - Science Teacher (with a Master of Teaching qualification as well) or Journalist.

3. Generic skills - Graduate Programs in the Australian Public Service or the Tasmanian state service, public relations, business management, marketing roles, and more.

Other Natural and Physical Science Courses at UTAS

Explore the UTAS course list:
- Other science courses: https://www.utas.edu.au/courses/study/science.

Graduate Fast Facts:
The 2019 employment, salary and further study outcomes of UTAS students four months after graduating from an undergraduate degree in Science and Mathematics.

<table>
<thead>
<tr>
<th></th>
<th>AVERAGE FOR ALL FIELDS OF STUDY</th>
<th>SCIENCE &amp; MATHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>FULL-TIME EMPLOYMENT %</td>
<td>UTAS 77.5</td>
<td>55.2</td>
</tr>
<tr>
<td></td>
<td>AUS 72.2</td>
<td>63.4</td>
</tr>
<tr>
<td>TOTAL EMPLOYMENT %</td>
<td>UTAS 89.7</td>
<td>80.8</td>
</tr>
<tr>
<td></td>
<td>AUS 86.8</td>
<td>82.4</td>
</tr>
<tr>
<td>MEDIAN SALARY $</td>
<td>UTAS 67,600</td>
<td>61,500</td>
</tr>
<tr>
<td></td>
<td>AUS 62,600</td>
<td>60,000</td>
</tr>
<tr>
<td>FULL-TIME STUDY</td>
<td>UTAS 18.7</td>
<td>47.4</td>
</tr>
<tr>
<td></td>
<td>AUS 18.9</td>
<td>39.5</td>
</tr>
</tbody>
</table>

This is compared with average outcomes in science and Mathematics courses nationally and average outcomes for all fields of study.


TasTAFE Courses

TasTAFE offers a range of courses that fit into the natural and physical sciences field of study. You can find these here: https://www.tastafe.tas.edu.au/courses/industry/agriculture-science/.

When you select Science, you will see that there are two courses:

Technical Officer is a potential career outcome from this course.

Career Options with TasTAFE courses

- Technical Assistant, Technical Officer.
- Medical Technicians (Anaesthetic Technician, Cardiac Technician, Medical Laboratory Technician, Operating Theatre Technician, Pharmacy Technician).

The University College Courses

The Associate degree in Applied Science - Fermentation Science and Separation Processes Specialisation: https://www.utas.edu.au/college/courses/fermentation-separation is a natural and physical science course offered by the University College.

Career Options

- Brewing
- Winemaking
- Distilling
- Fermented food and drink production
- Plant-based cosmetics and pharmaceuticals
Zoologist is one possible career option in the natural and physical sciences field of study. Your pathway to becoming a zoologist can start with a Bachelor of Science degree at the University of Tasmania.

Zoologists study animals and their behaviour. They may study a particular aspect of zoology or a particular species or group of species either in the wild or in captivity. Zoologists may specialise in areas such as entomology (insects), parasitology (internal and external parasites), ecology (environment of animals), ethology (animal behaviour), ichthyology (fish), mammalogy (mammals), ornithology (birds), herpetology (reptiles) or physiology (functions of animals).

The tasks of zoologists are varied and can include studying animals in their environments, conducting research, devising methods of population control of pests, developing programs to manage animals in captivity, surveying fauna numbers and distribution, preparing reports, educating the public, and more.

Some zoologists work in offices and laboratories, some may spend much of their time outdoors studying animals in their natural habitats, sometimes in remote locations. Others may study animals in controlled environments such as zoos.

The work of Zoologists

Increases scientific knowledge and develops practical applications in areas such as wildlife management, conservation, agriculture and medicine.

Contributes to the protection of endangered species and other wildlife from the pressures of habitat loss, disease, invasive species, and climate change.

More on Zoology

Which Zoologist are you?

Try the fun quiz (This is not a valid career test) https://careerswithstem.com.au/zoology-quiz/.

Watch a video on a Zoologist

Log into myfuture - https://myfuture.edu.au select occupations and enter Zoologist in the keyword search. The occupational group of Life Scientists will appear.

Check your zoology knowledge by checking the 'Top 10 Zoology Facts'. Then you can test your knowledge with the Zoology quiz: https://globalquiz.org/en/top-zoology-facts/.

Want to know more about Natural and Physical Sciences?

Do a quiz to find out the type of Bachelor Science Degree that may suit you: https://careerswithstem.com.au/bachelor-of-science-quiz/.

• Watch videos and do quizzes, at Careers with STEM https://careerswithstem.com.au

Labour Market for Zoologists

$1794

is, as a guide, the median weekly pay for full-time Zoologists in Australia.

710

Zoologist is a small occupation employing 710 workers in Australia in 2016.

3.5%

of Zoologists are employed in Tasmania. Tasmania has a 2.0% share of Australian zoologist jobs.

A large proportion of Zoologists go on to further university study related to Zoology after finishing their bachelor degree.

Moderate jobs growth expected over the next five years.

Check the Good Universities Guide for information covering the personal requirements, education and training, work tasks and duties, employment opportunities for Zoologists, and courses in each Australian state or territory: https://www.gooduniversitiesguide.com.au/careers-guide/browse/zoologist.

Want to know more about Natural and Physical Sciences?

• Browse these magazines on Science: https://issuu.com/refractionmedia/docs/cws_science_2019
• Browse these magazines on Maths: https://issuu.com/refractionmedia/docs/cws Maths_2019
• Find out about career options on the Australian Mathematics and Sciences Institute careers portal https://careers.amsi.org.au/
• Read about people who work in careers with a focus on Mathematics: https://careers.amsi.org.au/all-profiles/
• Watch videos on how Maths is used in different careers and to solve world problems: https://careers.amsi.org.au/all-videos/
• Read job ads in different industries that require Maths: https://careers.amsi.org.au/jobs-ads/

Zoologist is one possible career option in the natural and physical sciences field of study. Your pathway to becoming a zoologist can start with a Bachelor of Science degree at the University of Tasmania.

Zoologists study animals and their behaviour. They may study a particular aspect of zoology or a particular species or group of species either in the wild or in captivity. Zoologists may specialise in areas such as entomology (insects), parasitology (internal and external parasites), ecology (environment of animals), ethology (animal behaviour), ichthyology (fish), mammalogy (mammals), ornithology (birds), herpetology (reptiles) or physiology (functions of animals).

The tasks of zoologists are varied and can include studying animals in their environments, conducting research, devising methods of population control of pests, developing programs to manage animals in captivity, surveying fauna numbers and distribution, preparing reports, educating the public, and more.

Some zoologists work in offices and laboratories, some may spend much of their time outdoors studying animals in their natural habitats, sometimes in remote locations. Others may study animals in controlled environments such as zoos.

The work of Zoologists

Increases scientific knowledge and develops practical applications in areas such as wildlife management, conservation, agriculture and medicine.

Contributes to the protection of endangered species and other wildlife from the pressures of habitat loss, disease, invasive species, and climate change.

More on Zoology

Which Zoologist are you?

Try the fun quiz (This is not a valid career test) https://careerswithstem.com.au/zoology-quiz/.

Watch a video on a Zoologist

Log into myfuture - https://myfuture.edu.au select occupations and enter Zoologist in the keyword search. The occupational group of Life Scientists will appear.

Check your zoology knowledge by checking the 'Top 10 Zoology Facts'. Then you can test your knowledge with the Zoology quiz: https://globalquiz.org/en/top-zoology-facts/.

Want to know more about Natural and Physical Sciences?

Do a quiz to find out the type of Bachelor Science Degree that may suit you: https://careerswithstem.com.au/bachelor-of-science-quiz/.

• Watch videos and do quizzes, at Careers with STEM https://careerswithstem.com.au

Labour Market for Zoologists

$1794

is, as a guide, the median weekly pay for full-time Zoologists in Australia.

710

Zoologist is a small occupation employing 710 workers in Australia in 2016.

3.5%

of Zoologists are employed in Tasmania. Tasmania has a 2.0% share of Australian zoologist jobs.

A large proportion of Zoologists go on to further university study related to Zoology after finishing their bachelor degree.

Moderate jobs growth expected over the next five years.

Check the Good Universities Guide for information covering the personal requirements, education and training, work tasks and duties, employment opportunities for Zoologists, and courses in each Australian state or territory: https://www.gooduniversitiesguide.com.au/careers-guide/browse/zoologist.

Want to know more about Natural and Physical Sciences?

• Browse these magazines on Science: https://issuu.com/refractionmedia/docs/cws_science_2019
• Browse these magazines on Maths: https://issuu.com/refractionmedia/docs/cws Maths_2019
• Find out about career options on the Australian Mathematics and Sciences Institute careers portal https://careers.amsi.org.au/
• Read about people who work in careers with a focus on Mathematics: https://careers.amsi.org.au/all-profiles/
• Watch videos on how Maths is used in different careers and to solve world problems: https://careers.amsi.org.au/all-videos/
• Read job ads in different industries that require Maths: https://careers.amsi.org.au/jobs-ads/
Get the practice in: UCAT
Year 12 students applying to study for Medicine, Dentistry or Clinical Sciences in 2020 need to register for the University Clinical Assessment Test and do your practice tests here: https://www.ucat.edu.au/ucat-anz/practice-tests/.

Further reading: What is a career?
For Year 12 students who will be completing their transition plan, learn more about what is meant by the term career and the various things you can do at school and out of school that build your career. Visit: https://myfuture.edu.au/career-insight/details?id=what-is-a-career#/.

Apply for Army work experience: Deadline 23rd February
If you are 15 years or over and from an Aboriginal or multicultural background, you are invited to apply for work experience with the Australian Defence Force (ADF) in Hobart during Harmony Week on Tuesday 17th March 2020.

The experience will include taking part in setting up a post out field, wearing camouflage face paint and an Army weapons training simulation. Your fitness skills will be put through its paces and you’ll learn about Army vehicle capability. You’ll also learn about ADF careers and the recruitment process.

To be considered, apply by 5.00 pm on Sunday 23rd February 2020. Apply online https://tinyurl.com/rkh364y.
To apply visit https://tinyurl.com/sm35x6e

Apply for Marine Biologist work experience: Deadline 24th February
This field-based course is conducted over 5 days on Maria Island. It includes diving, learning practical techniques, monitoring marine life, and collecting data for real scientific research. Open to Year 11 & 12 Students, the Practical introduction to temperate marine biology course is offered by the Institute of Marine and Antarctic Science (IMAS) at the University of Tasmania. On the final day of the course you’ll be presenting your research findings at IMAS in Hobart. It contributes 8 points to the TCE and also to the ATAR.

Price: $645.00
Date: 20th-26th April 2020 (during the school holidays)
Places: 24 places available for the course
Scholarship: 9 places
All applicants will be considered for one of nine scholarships to cover course costs. Four scholarships will be awarded to Tasmanians and five will be awarded to interstate applicants. Register your interest here: https://www.imas.utas.edu.au/study/undergraduate/marinediscoverycompetition.

Start the conversation: National Careers Week
Start the conversation in your school to get involved with National Careers Week. Plan your activities and register them on the National Careers Week website: https://careersweek.com.au.