Check out your future campus

A transformed campus, complete with cutting-edge facilities will be opening and ready for you when you start in 2015.

UTS OPEN DAY
30 AUGUST 2014
(City campus)
9am – 4pm

UTS INFO DAY
6 JANUARY 2015
(City campus)
9am – 4pm

Register for these events at undergraduate.uts.edu.au/events

UTS Future Students

science.uts.edu.au

VISIT UTS

UTS Science organises a number of events for future students and the community, find out more at www.science.uts.edu.au/future

DISCLAIMER: The information in this brochure is correct as of February 2014. Changes in circumstances after this date may affect the accuracy or currency of the information. UTS reserves the right to alter any matters described in this brochure without notice. Readers are responsible for verifying information that pertains to them by contacting the University.

UTS CRICOS PROVIDER CODE: 00099F

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WELCOME TO UTS:SCIENCE

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Educational Access Schemes
UTS Educational Access Schemes take into account a range of educational disadvantages that may have affected your most recent academic performance. The following schemes assist applicants to gain entry to UTS courses:
> UTS Educational Access Scheme awards 10 concessionional ATAR points for high school leavers and students with post-secondary qualifications who have experienced educational disadvantage and achieve a minimum ATAR of 69.
> UTS Elite Athletes and Performers Special Admissions Scheme awards 5 concessionional points off the ATAR cut-off to applicants who are elite athletes and/or performers (representing school or state on national level competition) and whose sport or performance commitments have impacted on their studies.
> Principal's Recommendation Scheme aims to support Year 12 students who are eligible for financial hardship under the UTS Educational Access Scheme, achieve a minimum ATAR of 69 and who are nominated by their high school principal, by offering them a place at UTS, given that a UTS course is one of their UAC preferences.
For more information about Educational Access Schemes contact:
UTS Equity & Diversity Unit
Email: equity@uts.edu.au
Tel: +61 2 9514 1084
UTS Equity & Diversity Unit
Entry Pathways
If you don’t gain entry to your degree of choice, consider undertaking another form of study and then reapply the following year as a non-current school leaver. At UTS, there are a number of pathways you can take to gain entry to your preferred course:
Complete an INSEARCH Diploma
UTS:INSEARCH is the premium pathway provider to UTS. Diploma programs can provide direct entry into corresponding undergraduate degrees and you could fast-track into the 2nd year of a UTS undergraduate degree, depending on the course you choose.
UTS Foundation Studies provides pathways to UTS:INSEARCH and entry into the first year of an undergraduate degree at UTS (provided you meet the academic admission requirements and if you obtain exceptional results). For more info, visit www.insearch.edu.au
For more information on all entry pathways to UTS visit www.undergraduate.uts.edu.au/pathways
Complete a TAFE Diploma
UTS offers some subject exemptions to students who apply to study at UTS after first completing a course at TAFE. Each exemption is assessed on an individual basis.
Commence study of a course with a lower ATAR requirement, either at UTS or another university, and apply to transfer to your preferred degree after a year. The marks you achieve in your first year of study will count towards your application and you may be eligible to receive credit recognition towards your final degree for some of the subjects you’ve studied.
For more information on all entry pathways in to UTS visit www.undergraduate.uts.edu.au/pathways
Complete an Ability Assessment
UTS Science believes some future students may have an aptitude for scientific study that is not reflected in their HSC results. The aptitude assessment is an opportunity for students to demonstrate their potential, and possibly secure an offer to study at UTS Science.
For more information, visit aptitude.science.uts.edu.au

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Our vision at UTS Science is to deliver practice-oriented, globally relevant and research focused courses, producing graduates for the global workplace.

Our mission is supported by vibrant, high impact research in an inclusive environment, world class facility and active interaction with the scientific professions and its community.

Your study programs at UTS Science will give you a good understanding of current scientific knowledge and practice, and skills for the changing work environments in which you will operate in.

You will be well supported as our academics are also active researchers who work closely with industry on current issues, some being world-renowned experts in their fields.

During 2014, UTS Science will receive another new building, increasing our research and teaching capabilities, and adding more exciting opportunities for discovery and enhanced learning.

Professor Bruce Milthorpe
Dean, UTS Faculty of Science

THE FUTURE OF SCIENCE
WHY UTS: SCIENCE?

UTS: Science was rated BETTER THAN WORLD STANDARD in the recent Excellence in Research for Australia (ERA) report*.

LEADERS IN SCIENCE
UTS is a leading provider of science research and education in Australia, with many of its academic staff recognised internationally as leaders in their fields. The Faculty has received many accolades for teaching, learning and research. In the recent ERA report, UTS Science was one of only two institutions to receive a five star rating in environmental sciences. The Faculty was awarded top ERA rating for two consecutive years, a testament to our talented and dedicated lecturers.

LEARN WITH THE BEST
Lecturers are experts in their disciplines with a wealth of experience in academia, research and industry. Many of our academics are internationally renowned researchers conducting research that addresses current issues to solve problems of the future.

Examples include Dr Peter Macreadie who was recently awarded the 2013 NSW Tall Poppy Award for his continuous work in capturing and storing carbon using Australian seagrass ecosystems. Distinguished Professor Louise Ryan was recently elected into the Australian Academy of Science as a Fellow Member for her methodological contributions to statistical methods for cancer and environmental health research.

PRACTICAL COURSES
We are committed to ensuring that hands-on experience is integrated throughout your degree. Practical elements are not limited to laboratory practicals or fieldwork. You will have the opportunity to network with industry practitioners through guest lectures. Students studying mathematics and statistics are exposed extensively to new application software. Excursions and field trips are very common to our students studying environment and marine programs.

TRANSFERABLE SKILLS AND DIVERSE CAREERS
Science and maths graduates are in high demand and as a UTS Science graduate you will be highly regarded and sought after by employers.

Science and maths graduates have a broad range of skills developed and enhanced during their studies, which range from technical skills such as conducting practical investigations and the application of scientific methodologies to those proficiencies.

Science students have outstanding problem solving, analytical and effective communication skills which are highly transferable, desired by employers.

At UTS, you can also combine your science or maths degree with international studies where you learn another language and culture overseas for a year. This international experience can open doors to better career opportunities as well as broaden your mind.

*ERA is conducted by the Australian Research Council. And the most recent report was released in December 2012.
COMBINING SCIENCE OR MATHS COURSES WITH ANOTHER SPECIALISATION

At UTS, you can combine your science or mathematics degree with another specialisation such as business, international studies, engineering or law, diversifying and opening more doors to your career options. Find out more on page 34.

STATE-OF-THE ART FACILITIES

Our facilities are modern and comparable to, if not better than those in advanced commercial laboratories, so that students learn to use scientific equipment and practice their skills in a realistic environment similar to the workplace. Students are well supported and exposed to the latest technologies including a new Super Lab, OMX Blaze super resolution microscope, and modern teaching and research labs.

UTS is leading the way in delivering a world-class campus through its billion dollar Campus Master Plan. A new state of the art science building will open in late 2014, housing additional teaching and learning spaces, research labs, social spaces and a Super Lab, fitted with the latest equipment and technology.

RESEARCH INTENSIVE FACULTY

UTS aspires to be a research intensive university and is well on its way, recently rated as “better than world standard” in the Excellence in Research Australia report.

The Faculty contributes about 40-percent of UTS’ total research output. Research is an important element to the Faculty and science, because it is required to provide and search for new breakthroughs. It is the foundation for many of the products that are in use today, from the iPhone to the food we consume daily.

CONVENIENT LOCATION

Science and maths courses are taught at the UTS City Campus, which is a fantastic advantage because it is in the centre of Sydney, close to amenities, transport and industry. UTS Science facilities are located at the corner of Harris and Thomas streets.

A great university experience is also about the student social life and with over 120 clubs and societies on offer including a gym, multi-purpose sports hall, cafes and bars – you’ll be spoilt for choice. Academic assistance, learning centres, and career advice are also available to ensure students feel secure, supported and safe.
“Sydney’s Southern CBD is undergoing an amazing transformation right now and very soon this precinct will have a vibrant atmosphere of a world-class cultural and commercial hub.”

Professor Ross Milbourne, UTS Vice-Chancellor and President.

The UTS City Campus Master Plan is a once-in-a-generation vision to deliver a vibrant and engaging education precinct. UTS is investing $1 billion to fundamentally change the way we deliver teaching, learning and research. Since 2008, UTS has been realising this vision, through the rollout of major new buildings, facilities and significant upgrades. This rollout will not only reinvent our campus but also Sydney’s Southern CBD.

Part of the Campus Master Plan, the Faculty of Science will receive an additional new purpose-built facility on Thomas Street connecting to its current building on Harris street. The new addition will add on to teaching and learning spaces, research labs, social spaces and a new Super Lab, one of only two in Australia, equipped to teach over 200 students at the one time.
Our world-class facilities are designed to allow students to develop their practical skills.

By giving students access to modern and up-to-date scientific equipment, students gain essential experience and will be work-ready when they get to the workplace.

**TEACHING LABORATORIES**
Teaching laboratories are dedicated to practicals. Labs are fitted with modern scientific and analytical instrumentations, e-lecterns and computers.

UTS Science also has off-campus learning sites such as the Stroud Research Station, which provides access to forests and rivers around Stroud, situated near Newcastle. It’s equipped with 12 artificial stream systems used for stream ecology and ecotoxicology research.

**CHINESE MEDICINE OUTPATIENT CLINIC**
UTS is only a handful of English language universities in the world to offer comprehensive professional education and research in traditional Chinese medicine. Our on-campus outpatient clinic is open to the public and enables students to practice treatments in acupuncture, Chinese herbal medicine and Chinese medicine remedial massage.

**MATHEMATICS AND COMPUTING FACILITIES**
Mathematics students have access to modern computer labs with up-to-date mathematical and statistical software, e-learning support, and regional and national advanced computing facilities.

UTS collaborates closely with the Australian Consortium for Advanced Computing and Communications (Ac3) giving students access to state-of-the-art computing facilities.

**RESEARCH LABORATORIES**
There are three levels of research laboratories where UTS Science collaborate with a number of industry partners including Agilent Technologies, FEI Company, and the Australian Federal Police. Some of these partnerships have resulted in advanced and specialist facilities, such as the Nuclear Magnetic Resonance (NMR) that supports top-quality research into chemistry, biology and forensics.
WHY IS SCIENCE IMPORTANT?

Science is a big part of our lives, from the food we eat, to the clothes we wear and the new gadgets that are being made, such as your iPhone and iPad. Science is everywhere!

In fact science and technology is taking the world by storm, and proving itself to industry where materials and discoveries are made to help us make huge leaps. For example, using corals to reproduce artificial bone in the future, and synthesising gallium nitride to produce more energy efficient and environmentally friendly lighting. Science is definitely here to stay!

WHAT ABOUT CAREERS?

Graduates of science and mathematics are becoming increasingly important as they are responsible for finding solutions and fulfilling our needs. They are sought after by employers for the broad range of skills they develop and acquire during their studies, which range from technical and scientific skills such as conducting practical investigations and the application of scientific methodologies to those proficiencies that are transferable such as problem solving, critical thinking, teamwork and effective communication skills.

Studying science or mathematics at UTS will give you an edge because:

> We make sure you are work-ready through your practice-oriented study program.
> You learn from active researchers and are exposed to current research.
> You conduct experiments in commercial-like facilities to expose you to the workplace.
> You can combine your science or mathematics degree with another specialisation such as business, international studies, engineering, and law, to broaden your mind and career prospects.

WHERE DOES SCIENCE OR MATHS GRADUATE WORK?

Science or mathematics is one of those degrees that can get you anywhere – so your imagination is the limit! As a UTS Science graduate, you will gain a broad range of skills, both scientific and technical as well as the transferable skills that employers want.

You will be well equipped for the workplace!

A few examples include biochemist, biophysicist, chemist, conservationist, environmental officer, forensic scientist, hospital scientist, medical scientist, lab pathologist, statistician, information analyst, investment analyst, new product developer and many more.

Browse through more jobs or download the UTS Science Careers Guide at www.science.uts.edu.au/future

“Somewhere, something incredible is waiting to be known.”

Carl Sagan

*Carl Sagan was the Director of the Laboratory for Planetary Studies at Cornell University and played a leading role in the American space program. He helped solve the mysteries of the high temperatures of Venus which were due to a strong greenhouse effect.*
HOW MUCH DOES SCIENCE OR MATHEMATICS GRADUATES EARN IN COMPARISON TO OTHER DISCIPLINES?

The median starting salary for bachelor degree graduates, under-25 and in their first full-time employment was $50,000 in 2011.

This table compares the median starting salary for bachelor graduates under 25, in different education field in 2011.

<table>
<thead>
<tr>
<th>EDUCATION FIELD</th>
<th>MEDIAN STARTING SALARY IN 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry</td>
<td>$50,000</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>$44,000</td>
</tr>
<tr>
<td>Life Sciences</td>
<td>$45,000</td>
</tr>
<tr>
<td>Mathematics</td>
<td>$52,000</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>$35,000</td>
</tr>
<tr>
<td>Architecture</td>
<td>$32,500</td>
</tr>
<tr>
<td>Accounting</td>
<td>$45,000</td>
</tr>
<tr>
<td>Business Studies</td>
<td>$44,000</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>$45,000</td>
</tr>
<tr>
<td>Nursing</td>
<td>$48,000</td>
</tr>
</tbody>
</table>

Source: Graduate Careers Australia

AM I UP FOR SCIENCE?

When considering whether science is a suitable match for you, it is worth knowing what is needed for a successful and enjoyable career in science.

Science and maths graduates have critical and inquiring mind, a good level of numeracy, attention to detail and an interest in current scientific issues. You will need to like, if not love science or mathematics as they will be a big part of your degree.

If you did not complete any science or mathematic subjects in high school, do not panic, you can still apply for a science or maths degree at UTS but will need to put in the hard work and there are facilities to help you, such as the UTS Maths Study Centre and Bridging Courses for Physics, Chemistry and Mathematics.
“Your study programs at UTS Science give you a good understanding of current scientific knowledge and practice, and skills for the changing work environments.”

Professor Bruce Milthorpe, Dean, UTS Faculty of Science.

Courses at UTS Science are practical and relevant. Your study program will include compulsory subjects to give you the building blocks of your scientific knowledge and education.

Here are commonly asked questions to help you.

**Q: WHAT DISCIPLINES OR MAJORS CAN I STUDY?**

You can study the following disciplines at UTS, as a major in the Bachelor of Science and/or as a Specialist degree: Applied Chemistry, Applied Physics, Nanotechnology, Environmental Sciences, Environmental Biology, Environmental Forensics, Marine Biology, Forensic Science, Forensic Biology, Biotechnology, Biomedical Science, Medical Science, Chinese Medicine, Mathematics, Statistics, Mathematics and Computing, Mathematics and Finance, and the Flexible major.

**Q: I AM INTERESTED IN SCIENCE BUT CANNOT DECIDE WHICH DISCIPLINE, WHICH IS THE BEST COURSE FOR ME?**

The Bachelor of Science with the flexible major would best suit this situation because you will have the flexibility to change your major or subjects during your studies.

**Q: IF I DID NOT STUDY ANY SCIENCE SUBJECTS AT SCHOOL, CAN I STILL APPLY TO STUDY SCIENCE AT UTS?**

Yes, you can. Courses at UTS do not have entry prerequisites but you are expected to have the assumed knowledge of relevant subjects according to your preferred courses at the start of semester. Each course has its own assumed knowledge or recommended studies, which students are advised to have achieved before beginning the course. UTS also offers a range of assistance and support for students who do not meet the assumed knowledge requirements for their preferred course, such as Bridging Courses, Maths Study Centre and Peer Assisted Study.

Table: UTS Science degrees

<table>
<thead>
<tr>
<th>UAC CODE</th>
<th>BACHELOR OF SCIENCE DEGREE</th>
<th>2014 ATAR</th>
<th>UAC CODE</th>
<th>SPECIALIST DEGREE</th>
<th>2014 ATAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>607001</td>
<td>Bachelor of Science (Flexible)</td>
<td>74.00</td>
<td>Not offered</td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>607005</td>
<td>Bachelor of Science (Applied Chemistry)</td>
<td>71.65</td>
<td>Not offered</td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>607009</td>
<td>Bachelor of Science (Applied Physics)</td>
<td>71.20</td>
<td>Not offered</td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>607007</td>
<td>Bachelor of Science (Nanotechnology)</td>
<td>71.50</td>
<td>Not offered</td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>607003</td>
<td>Bachelor of Science (Mathematics)</td>
<td>75.50</td>
<td>Not offered</td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>607003</td>
<td>Bachelor of Science (Statistics)</td>
<td>75.50</td>
<td>Not offered</td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>607011</td>
<td>Bachelor of Science (Environmental Sciences)</td>
<td>NA</td>
<td>Not offered</td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>607015</td>
<td>Bachelor of Science (Biotechnology)</td>
<td>77.45</td>
<td>607045</td>
<td>Bachelor of Biotechnology</td>
<td>75.00</td>
</tr>
<tr>
<td>607015</td>
<td>Bachelor of Science (Biomedical Science)</td>
<td>77.45</td>
<td>607040</td>
<td>Bachelor of Biomedical Science</td>
<td>83.75</td>
</tr>
<tr>
<td>607015</td>
<td>Bachelor of Science (Medical Science)</td>
<td>77.45</td>
<td>607050</td>
<td>Bachelor of Medical Science</td>
<td>88.00</td>
</tr>
<tr>
<td>Not offered</td>
<td></td>
<td>NA</td>
<td>607055</td>
<td>Bachelor of Health Science in Traditional Chinese Medicine</td>
<td>75.90</td>
</tr>
<tr>
<td>Not offered</td>
<td></td>
<td>NA</td>
<td>607033</td>
<td>Bachelor of Environmental Biology</td>
<td>71.00</td>
</tr>
<tr>
<td>Not offered</td>
<td></td>
<td>NA</td>
<td>607030</td>
<td>Bachelor of Environmental Forensics</td>
<td>71.00</td>
</tr>
<tr>
<td>Not offered</td>
<td></td>
<td>NA</td>
<td>607035</td>
<td>Bachelor of Marine Biology</td>
<td>72.00</td>
</tr>
<tr>
<td>Not offered</td>
<td></td>
<td>NA</td>
<td>607020</td>
<td>Bachelor of Forensic Science in Applied Chemistry</td>
<td>78.10</td>
</tr>
<tr>
<td>Not offered</td>
<td></td>
<td>NA</td>
<td>607025</td>
<td>Bachelor of Forensic Biology in Biomedical Science</td>
<td>85.00</td>
</tr>
<tr>
<td>Not offered</td>
<td></td>
<td>NA</td>
<td>609045</td>
<td>Bachelor of Mathematics and Computing</td>
<td>71.25</td>
</tr>
<tr>
<td>Not offered</td>
<td></td>
<td>NA</td>
<td>609040</td>
<td>Bachelor of Mathematics and Finance</td>
<td>79.65</td>
</tr>
</tbody>
</table>
**Q: HOW MANY HOURS WILL I BE AT UNIVERSITY EACH WEEK?**

A typical full-time science or mathematics student can expect about 20 hours of contact time each week in your first year of study. However, you will also require to study and prepare for assessments, so a fair estimate would be up to 40 hours each week inclusive of lab practicals and tutorials.

**Q: WHAT IS THE DIFFERENCE BETWEEN A BACHELOR OF SCIENCE AND A SPECIALIST DEGREE, E.G. BACHELOR OF MEDICAL SCIENCE?**

In most cases, where the same majors are offered in both the Bachelor of Science and Specialist Bachelor degree, there is no difference between the two study programs.

For example, Jane is enrolled in the Bachelor of Science (Medical Science) and Derek is enrolled in the Bachelor of Medical Science – the specialist degree. Both Jane and Derek could have the same study programs dependent on their chosen elective subjects. They could be attending the same lectures and doing the same practical experiments.

The only differences are in their choice of elective subjects and the award they receive when they graduate, where Jane will receive an award in the Bachelor of Science (Medical Science) and Derek will receive an award in the Bachelor of Medical Science.

**Q: WHAT IS AN ELECTIVE SUBJECT?**

Elective subjects are free choice subjects you choose to study. You can either choose subjects within your study area or out of your discipline.

For example, if you are studying the Bachelor of Science (Biomedical Science), you can choose the subject ‘Marketing Foundations’ as one of your elective subject.

**Q: CAN I COMBINE MY DEGREE WITH ANOTHER SPECIALISATION?**

You can combine your science or mathematics degree with another specialisation such as Business, International Studies, Law and Engineering. By combining your degrees, you will gain two specialisations opening more job opportunities and pathways.

For the course list, please refer to pages 34.

**Q: WHAT SCHOLARSHIPS ARE AVAILABLE AT UTS?**

UTS and the Faculty of Science recognises your academic achievements and offer a range of scholarships to our future students. You can find out more at [www.science.uts.edu.au/future](http://www.science.uts.edu.au/future) or see page 40.

**Q: CAN I START MY DEGREE IN THE MID-YEAR?**

Yes, you can but not all courses are offered in mid-year. See the list at [www.science.uts.edu.au/future](http://www.science.uts.edu.au/future)
HOW DOES IT WORK?
The Bachelor of Science (BSc) is a flexible degree designed to give you a solid foundation of scientific knowledge and practice, while allowing you to specialise in your area of interest.

In your first year, you’ll study core subjects of your chosen foundation stream. At the end of the first year, you can either continue or change your chosen major or area of specialisation within the foundation stream.

You can also opt to study a range of subjects by choosing the flexible major, and graduate with a Bachelor of Science award. This allows you to follow your interests and aspirations, while keeping your career options open.

Flexible major: You’ll need to choose one of the three first-year foundation streams. Upon completion of the foundation streams, you may choose any of the specific majors that articulate with your chosen foundation stream or you may choose a flexible mix of subjects that matches your interests and ambitions. See page 22 for more information.

CAN YOU COMBINE THE BACHELOR OF SCIENCE WITH ANOTHER DEGREE?
Yes, you can combine the Bachelor of Science, with degrees from other UTS faculties such as business, international studies, law and engineering. For example, you can combine Bachelor of Science (Applied Physics) with Bachelor of Arts in International Studies, which allows you to study abroad for a year. See page 30 for more information.
WHAT ARE THE FOUNDATION STREAMS?
WHAT MAJORS DO THEY LEAD INTO?

There are 3 foundation streams that lead into 9 majors.

<table>
<thead>
<tr>
<th>FOUNDATION STREAMS</th>
<th>MAJORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life and Environmental Sciences</td>
<td>Biotechnology, Biomedical Science, Medical Science, Environmental Sciences</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>Applied Chemistry, Applied Physics, Nanotechnology</td>
</tr>
<tr>
<td>Mathematical Sciences</td>
<td>Mathematics, Statistics</td>
</tr>
</tbody>
</table>

BSc

LIFE & ENVIRONMENTAL SCIENCES FS

MAJOR CHOICES
> Biotechnology
> Biomedical Science
> Medical Science
> Environmental Sciences

PHYSICAL SCIENCES FS

MAJOR CHOICES
> Applied Chemistry
> Applied Physics
> Nanotechnology

MATHEMATICAL SCIENCES FS

MAJOR CHOICES
> Mathematics > Statistics

At the end of 1st year study, choose your major from the relevant foundation stream or the Flexible* major

YEAR 1
Choose one of the three Foundation Streams (FS)

PRACTICAL APPROACH TO TEACHING THAT INVOLVES HOT WHEELS CARS AND SHOOTING ARROWS

Alex West, a Bachelor of Science (Applied Chemistry) student admits physics was the one subject that “freaked me out” before coming to university.

“I didn’t study physics for the HSC, so the prospect of doing it first-year at uni was a little scary. However, I soon discovered, it wasn’t like that at all. I found the material really stimulating and made a lot of sense as the theory and practical linked together well.

“The subject started off with a bang! They didn’t waste any time getting us straight into the practicals and you have to admit it’s pretty cool when your first lab involves testing Hot Wheels cars and constructing huge ramps for them to speed down.”

But it’s not all fun and games. West says there’s a serious side too.

“We had to use the equations we learnt in the lecture to manipulate the distance and accuracy of the car. It was a big competition among the class, and whoever could build the highest, but also most accurate, ramp won. A bit of competition is always good to get you thinking.”

Extracted from UTS Newsroom.

Byline: Sarah Gillett, Bachelor of Arts in Communication (Journalism) and Andrew Fitzsimons, Bachelor of Science (Applied Chemistry)
# Science Flexible Bachelor of Science (Flexible)

## Key Information

- **2014 ATAR:** 74.00
- **Duration:** 3 years (full time) 6 years (part time)
- **Location:** City campus
- **UAC Code:** 607001
- **UTS Course Code:** C10242

**Combine this Degree with:** Business, Engineering, International Studies and Law – see page 34

**Recommended Year 12 Subjects:** Maths Extension 1, Chemistry, English, Maths and 2 Science subjects

**Bonus Points:** Available, see page 44

**How to apply:** See page 44

## Course Description

This is our most flexible degree that enables you to study core science and mathematics subjects while specialising in your areas of interest and aspiration. In the first year, you’ll study core subjects of your chosen foundation stream.

At the end of the first year, you can either continue or change your chosen major within the foundation stream. You can also opt to study a mix of subjects of your interests, keeping your career options open.

This course is best suited if you’re undecided over which major to follow, because it allows you to study a broad range of subjects in the first year before deciding on a major in the second year.

It also enables you to familiarise yourself with different areas of science and maths, and discuss your interests and options with lecturers.

You can also combine this degree with other degrees from other UTS faculties such as business, international studies, law and engineering. For more details, see page 34.

## Career Options Include

Depends largely on the chosen subjects. Graduates will have versatile transferable skills that are recognised in almost any industry.

For more career options, visit [www.science.uts.edu.au/future](http://www.science.uts.edu.au/future)

## Course Structure - Flexible Major

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Years 2 and 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flexible major for Mathematical Sciences Foundation Stream</strong>&lt;br&gt;Introduction to Quantitative Management&lt;br&gt;Introduction to Linear Dynamical Systems&lt;br&gt;Introduction to Statistics&lt;br&gt;Foundation subject choice A&lt;br&gt;Introduction to Sample Surveys&lt;br&gt;Introduction to Analysis and Multivariable Calculus&lt;br&gt;Applications of Discrete Mathematics&lt;br&gt;Foundation subject choice B&lt;br&gt;OR</td>
<td>Choose a combination of subjects that interests you.&lt;br&gt;To view subjects, visit: <a href="http://www.handbook.uts.edu.au/courses/c10242.html">www.handbook.uts.edu.au/courses/c10242.html</a></td>
</tr>
<tr>
<td><strong>Flexible major for Physical Sciences Foundation Stream</strong>&lt;br&gt;Mathematical Modelling for Science&lt;br&gt;Chemistry 1&lt;br&gt;Foundations of Physics&lt;br&gt;Select one of the following:&lt;br&gt;&gt; Cell Biology &amp; Genetics&lt;br&gt;&gt; The Biosphere&lt;br&gt;OR</td>
<td>Chemistry 2&lt;br&gt;Statistics &amp; Mathematics for Science&lt;br&gt;Introduction to Materials&lt;br&gt;Physics in Action</td>
</tr>
<tr>
<td><strong>Flexible major for Life &amp; Environmental Sciences Foundation Stream</strong>&lt;br&gt;Chemistry 1&lt;br&gt;The Biosphere&lt;br&gt;Cells Biology &amp; Genetics&lt;br&gt;Statistical Design and Analysis</td>
<td>Chemistry 2&lt;br&gt;Biocomplexity&lt;br&gt;Physical Aspects of Nature&lt;br&gt;Human Anatomy &amp; Physiology</td>
</tr>
</tbody>
</table>
# COURSE STRUCTURE - MATHEMATICS MAJOR

## Year 1
- Introduction to Quantitative Management
- Introduction to Linear Dynamical Systems
- Introduction to Statistics
- Foundation subject choice A
- Introduction to Sample Surveys
- Introduction to Analysis and Multivariable Calculus
- Applications of Discrete Mathematics
- Foundation subject choice B

## Year 2
- Computational Linear Algebra
- Optimisation in Quantitative Management
- Stochastic Models
- Differential Equations
- Regression Analysis

### Select one of the following:
- Advanced Analysis
- Mathematical Methods
- Nonlinear Methods in Quantitative Management
- Network and Combinatorial Optimisation
- Stochastic Processes
- Seminar (Mathematics)
- Quality Control
- Seminar (Statistics)

### Select two electives

## Year 3
- Advanced Calculus

### Select two of the following:
- Quantitative Management Practice
- Mathematical Statistics
- Design and Analysis of Experiments
- High Performance Computing

### Select three of the following:
- Advanced Analysis
- Mathematical Methods
- Nonlinear Methods in Quantitative Management
- Network and Combinatorial Optimisation
- Stochastic Processes
- Seminar (Mathematics)
- Quality Control
- Seminar (Statistics)

### Select two electives

## COURSE DESCRIPTION
You’ll gain a good understanding of mathematics, analysis and design of experiments, sample surveys, quality control, quantitative methods in management and finance, logistics, modelling techniques and mathematical foundations. You’ll obtain a high level of analytical skills and learn to apply mathematics in complex real world situations. With an extensive list of mathematics subjects to choose from, you can customise your degree according to your interests.

## CAREER OPTIONS INCLUDE
Financial consultant, valuer, quantity surveyor, banker, investment analyst, computer programmer, intelligence analyst. Mathematics graduates are in demand in a wide range of industries such as business, health, economics, engineering, market research, physical sciences and social sciences.

Graduates could be employed to analyse traffic flow at airports, calculate the optimum distribution of branches for a major bank, or set the rates of insurance premiums. Others might be part of a medical team working on ground-breaking research, modelling industrial inventory control, teaching or providing advice on the stock market. Wherever decisions have to be made, there is a need for graduates who have the skills to work with numerical information.

For more career options, visit [www.science.uts.edu.au/future](http://www.science.uts.edu.au/future)
COURSE STRUCTURE - STATISTICS MAJOR

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Quantitative Management</td>
<td>Computational Linear Algebra</td>
<td>Mathematical Statistics</td>
</tr>
<tr>
<td>Introduction to Linear Dynamical Systems</td>
<td>Optimisation in Quantitative Management</td>
<td>Design and Analysis of Experiments</td>
</tr>
<tr>
<td>Introduction to Statistics</td>
<td>Stochastic Models</td>
<td>Advanced Calculus</td>
</tr>
<tr>
<td>Foundation subject choice A</td>
<td>Differential Equations</td>
<td></td>
</tr>
<tr>
<td>Introduction to Sample Surveys</td>
<td>Regression Analysis</td>
<td></td>
</tr>
<tr>
<td>Introduction to Analysis and Multivariable</td>
<td></td>
<td>Select one of the following:</td>
</tr>
<tr>
<td>Calculus</td>
<td></td>
<td>&gt; Quality Control</td>
</tr>
<tr>
<td>Applications of Discrete Mathematics</td>
<td></td>
<td>&gt; Stochastic Processes</td>
</tr>
<tr>
<td>Foundation subject choice B</td>
<td></td>
<td>&gt; Seminar (Statistics)</td>
</tr>
<tr>
<td></td>
<td>Select two electives</td>
<td></td>
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</tbody>
</table>

**COURSE DESCRIPTION**

Statistics involves the design of data collection to gain maximum information, and the interpretation of that data. It is very important in marketing and finance industries. You’ll learn the theory involved in the discipline and also the analytical and problem-solving skills to answer a wide range of problems.

**KEY INFORMATION**

- **2014 ATAR:** 75.50
- **Duration:** 3 years (full time) 6 years (part time)
- **Location:** City campus
- **UAC Code:** 607003
- **UTS Course Code:** C10242

**Combine this Degree with:**

Business, Engineering, International Studies and Law – see page 34

**Recommended Year 12 Subjects:**

- Maths Extension 1
- Maths
- 2 units of English

**Bonus Points:** Available, see page 44

**How to apply:** See page 44

**Professor Matt Wand** was awarded the 2013 Australian Academy of Science’s Hannan Medal in Mathematical Sciences, recognising his research in statistical science in Australia and internationally.

Over the years Professor Wand’s scientific studies have addressed questions as diverse as “What are the main determinants of extreme rainfall events in the Sydney hinterland?” and “Does maternal stress predispose a child to atopy-asthma?”

Statistics plays a key role in obtaining useful information from the massive amounts of data now being generated by science and industry. Professor Wand’s current research is driven by data sets becoming bigger and more prevalent with the growth of technology such as the Internet.

**Statistics**

Bachelor of Science (Statistics)

**CAREER OPTIONS INCLUDE**

Market researcher, quantitative data analyst, financial consultant, valuer, quantity surveyor, investment analyst, systems analyst, banker.

Statistics graduates are commonly employed to identify underlying trends in business or social data, design surveys for market research companies, model the effects of decisions based on incomplete or uncertain data, or estimate risks in processes that inherently involve some degree of randomness.

For more career options, visit [www.science.uts.edu.au/future](http://www.science.uts.edu.au/future)
Specialist Degree: Bachelor of Mathematics and Computing

KEY INFORMATION

| 2014 ATAR: | 71.25 |
| Duration:   | 3 years (full time) 6 years (part time) |
| Location:   | City campus |
| UAC Code:   | 609045 |
| UTS Course Code: | C10158 |

Combine this Degree with:
International Studies – see page 34
Recommended Year 12 Subjects:
Maths Extension 1, Maths, 2 units of English

Bonus Points: Available, see page 44
How to Apply: See page 44
Professional recognition and accreditation: Australian Computer Society

COURSE STRUCTURE - BACHELOR OF MATHEMATICS AND COMPUTING

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Years 2 and 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Linear Dynamical Systems</td>
<td>Years 2 and 3 subjects are dependant on the sub-major chosen. Students select one Mathematics and Computing major from the following:</td>
</tr>
<tr>
<td>Introduction to Quantitative Management</td>
<td>&gt; Business Information Systems Management</td>
</tr>
<tr>
<td>Communication for IT Professionals</td>
<td>&gt; Enterprise Systems Development</td>
</tr>
<tr>
<td>Introduction to Information Systems</td>
<td>&gt; Internetworking and Applications</td>
</tr>
<tr>
<td>Introduction to Analysis and Multivariable Calculus</td>
<td>&gt; Computing and Data Analytics</td>
</tr>
<tr>
<td>Programming Fundamentals</td>
<td></td>
</tr>
<tr>
<td>Web Systems</td>
<td></td>
</tr>
</tbody>
</table>

COURSE DESCRIPTION

You’ll be taught the underlying mathematics and language of computing combined with the ability to model and analyse practical situations.

You’ll develop advanced skills in statistics and operations research to interpret data and put it to use. This combines with a thorough grounding in computing sciences and communications networking.

This course is designed to meet the increasing industry need for graduates with both computational and mathematical skills.

CAREER OPTIONS INCLUDE

Investment analyst, computer programmer, management consultant, intelligence analyst, information system development. Graduates can find employment in quantitative finance, computing and information technology and operations research. Teachers with qualifications in this field are also highly sought after. The combination of maths and computing provides a competitive edge and access to careers in both areas.

For more career options, visit [www.science.uts.edu.au/future](http://www.science.uts.edu.au/future)
### Key Information

- **2014 ATAR:** 79.65
- **Duration:** 3 years (full time)  
  6 years (part time)
- **Location:** City campus
- **UAC Code:** 609040
- **UTS Course Code:** C10155

**Combine this Degree with:**
International Studies – see page 34

**Recommended Year 12 Subjects:**
Maths Extension 1, Maths, 2 units of English

**Bonus Points:** Available, see page 44

**How to Apply:** See page 44

### Course Description

Mathematical techniques are increasingly important for risk assessment and the optimisation of financial plans, and there is a corresponding demand for highly skilled graduates in these areas.

This course combines both mathematical and business studies. Graduates with this speciality are in high demand in today’s current financial market.

Students learn the theory behind investment principles and how financial markets operate, and develop high level analytical, statistical and algebraic skills.

### Career Options Include

Graduates can find employment in stock market analysis, providing advice on portfolio management, option pricing, prediction of movements in international money markets and financial risk management.

Possible jobs include financial analyst, stock market analyst, portfolio manager, financial risk analyst, reinsurance pricing analyst, market research analyst, banker, policy advisor, quantitative analyst, forensic accountant, investment analyst, taxation consultant, treasurer or economist.

Major possible employers include banks, insurance companies, superannuation providers, government regulatory bodies such as APRA, ASIC and other major financial bodies.

For more career options, visit [www.science.uts.edu.au/future](http://www.science.uts.edu.au/future)

### Course Structure - Bachelor of Mathematics and Finance

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
</table>
| Introduction to Linear Dynamical Systems  
Introduction to Statistics  
Accounting for Business Decisions A  
Economics for Business  
Introduction to Quantitative Management  
Introduction to Analysis and Multivariable Calculus  
Accounting for Business Decisions B  
Fundamentals of Business Finance | Computational Linear Algebra  
Optimisation in Quantitative Management  
Stochastic Models  
The Financial System  
Differential Equations  
Regression Analysis  
Economics for Business 2  
Investment Analysis | Mathematical Statistics  
Advanced Calculus  
Derivative Securities  
Corporate Finance: Theory and Practice  
Financial Time Series  
Stochastic Processes  
Select one of the following:  
> Nonlinear Methods in Quantitative Management  
> Mathematical Methods  
> Seminar (Mathematics)  
> Stochastic Processes  
> Financial Time Series  
Select one of the following options:  
> Corporate Financial Analysis (Capstone)  
> International Financial Management  
> Issues in Corporate Finance |
What motivated you to study this degree?
I initially enrolled in a Civil and Environmental Engineering degree, but I also enjoyed mathematics in high school that I couldn’t imagine only doing maths as a subjects, so I added on a second degree.

What do you enjoy most about your degree?
I never realised how many different specialties existed in maths and as I moved through my degree I’ve been able to choose options that focus on what I’m interested in - quantitative management. This area uses mathematics to provide a quantitative basis for making complex decisions, and has applications including scheduling, transportation and creating financial portfolios. I like that we are learning about how maths can be applied to the real world to optimise everyday problems.

Why did you choose to study at UTS Science?
After visiting UTS on Open Day, I realised that the quality of a university campus is more than just how it looks from the outside. The group study areas and modern lecture rooms set it apart from other universities. I also chose UTS because it is centrally located and has flexible timetables, which is useful to me as I work part time.

What would you like to do once you complete your degree?
I would like to look at engineering applications of mathematics that I have learnt, such as construction project scheduling, public transport scheduling and infrastructure planning.

JASMINE TAN
Bachelor of Mathematics and Finance

“I chose UTS because it has flexible timetables.”

What motivated you to study this degree?
I loved mathematics in high school and wanted to explore the applications of mathematics, real solutions for a real world.

What do you enjoy most about your degree?
I love the variety of mathematics offered and I am being taught by world-class and recognised professors. There is also a wonderful support network to make sure you understand the content in classes.

Why did you choose to study at UTS Science?
I chose to study at UTS because I will be taught by experts in the field, well-known professors who have won accolades internationally.

UTS Science is like no other. They genuinely care about the career prospects of each of the degrees offered and hold seminars to show career pathways available. Career counselling and various workshops are there to assist you to get that job or interview. In addition, conferences and public lectures are held to encourage community engagement to further showcase the relevance of science and mathematics in today’s world.

Is there any advice you would give to students studying this degree?
This is a specialist degree with two majors, which requires significant amount of studying, but if you are willing to put in the work, you’ll be nicely rewarded.

CLaire Carroll
Bachelor of Science in Mathematics, Bachelor of Engineering (Civil and Environmental)

“I’m being taught by world-class professors.”

What motivated you to study this degree?
What do you enjoy most about your degree?
Why did you choose to study at UTS Science?
What would you like to do once you complete your degree?
APPLIED PHYSICS

Bachelor of Science (Applied Physics)

KEY INFORMATION

| 2014 ATAR: | 71.20 |
| Duration: | 3 years (full time) 6 years (part time) |
| Location: | City campus |
| UAC Code: | 607009 |
| UTS Course Code: | C10242 |

Combine this Degree with: Business, Engineering, International Studies and Law – see page 34

Recommended Year 12 Subjects: Maths Extension 1, Physics, Chemistry, Maths, 2 units of English, 2 units of Science

Bonus Points: Available, see page 44

How to apply: See page 44

Professional recognition and accreditation: Australian Institute of Physics (AIP)

COURSE DESCRIPTION

Physics challenges the imagination and today’s physicists are turning their talents to some of the great challenges facing society. Energy efficient lighting, climate change studies and medical technologies are all benefiting from the contributions of physicists.

You’ll learn about the interactions of energy and matter, precision measurement techniques, laws of nature and their behaviour, and how new developments in physics are helping to expand the frontiers of technology. Physics at UTS combines theory and practice with lots of opportunities for practical skills and laboratory experience.

You’ll gain valuable critical thinking skills and learn how to apply practical problem-solving skills in a hands-on environment. You’ll discover how applied research becomes new technology.

CAREER OPTIONS INCLUDE

Conservator, metallurgist, meteorologist, physicist, coal geologist, sensory biophysicist, atmospheric and environmental physicist, atomic and molecular physicist, medical and health physicist, nanotechnologist, optical physicist, noise consultant, materials analyst or scientist, biophysics consultant, exploration and consulting, medical physics diagnoses, energy and sustainable research.

For more career options, visit www.science.uts.edu.au/future

COURSE STRUCTURE - APPLIED PHYSICS MAJOR

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematical Modelling for Science</td>
<td>Nanomaterials</td>
<td>Applied Electronics and Interfacing</td>
</tr>
<tr>
<td>Chemistry 1</td>
<td>Energy Science and Technology</td>
<td>Solid-state Science and Nanodevices</td>
</tr>
<tr>
<td>Foundations of Physics</td>
<td>Mathematics for Physical Science</td>
<td>Computational Physics</td>
</tr>
<tr>
<td>Select one of the following:</td>
<td>Advanced Mechanics</td>
<td>Optics and Nanophotonics</td>
</tr>
<tr>
<td>&gt; Cell Biology and Genetics</td>
<td>Quantum Physics</td>
<td>Scanning Probe and Electron Microscopy</td>
</tr>
<tr>
<td>&gt; The Biosphere</td>
<td>Imaging Science</td>
<td>Measurement and Analysis of Physical Processes</td>
</tr>
<tr>
<td>Chemistry 2</td>
<td>Select two electives</td>
<td>Select two electives</td>
</tr>
<tr>
<td>Statistics and Mathematics for Science</td>
<td></td>
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<tr>
<td>Introduction to Materials</td>
<td></td>
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<tr>
<td>Physics in Action</td>
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</tbody>
</table>
NANOTECHNOLOGY

Bachelor of Science (Nanotechnology)

KEY INFORMATION

2014 ATAR: 71.50
Duration: 3 years (full time)
6 years (part time)
Location: City campus
UAC Code: 607007
UTS Course Code: C10242

Combine this Degree with:
Business, Engineering, International Studies and Law – see page 34

Recommended Year 12 Subjects:
Maths Extension 1, Physics, Chemistry, Maths, 2 units of English, 2 units of Science

Bonus Points: Available, see page 44

How to apply: See page 44

Professional recognition and accreditation: Australian Institute of Physics (AIP)

COURSE DESCRIPTION

Nanotechnology is about understanding how the world works at the level of atoms and molecules, and applying that knowledge to create innovative solutions. Nanotechnology products on sale today include; fabrics that are completely stain proof, self-cleaning surfaces, energy-efficient window coatings, clear-gel sunscreens and microchips.

Targeted drug-delivery systems, smart materials that respond to their surroundings, DNA computers and paper-thin and flexible displays are only a few nanotechnologies soon to be released.

In this major, you’ll be exposed to a multi-discipline course that develops your analytical and critical thinking skills, and also learn how to apply practical problem-solving skills.

Hands-on training in the tools of nanotechnology is a core component of this course.

The innovation and commercialisation process is examined to give graduates an appreciation of how new technologies may be brought to the market place.

CAREER OPTIONS INCLUDE

Material scientist, polymer scientist, composite technologist, investment advisor, product development and commercialisation, nanotechnologist, science teacher, academia, technical officer, imaging specialist, research associate or assistant, drug deliverance researcher, nanolithography, platform project officer.

For more career options, visit www.science.uts.edu.au/future

COURSE STRUCTURE - NANOTECHNOLOGY MAJOR

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematical Modelling for Science</td>
<td>Mathematics for Physical Science</td>
<td>Applied Electronics and Interfacing Molecular Nanotechnology</td>
</tr>
<tr>
<td>Chemistry 1</td>
<td>Physical Chemistry 1</td>
<td>Molecular Nanotechnology</td>
</tr>
<tr>
<td>Foundations of Physics</td>
<td>Nanomaterials</td>
<td>Solid-state Science and Nanodevices</td>
</tr>
<tr>
<td><strong>Select one of the following:</strong></td>
<td>BioNanotechnology</td>
<td>Surface Processes</td>
</tr>
<tr>
<td>&gt; Cell Biology and Genetics</td>
<td>Quantum Physics</td>
<td>Optics and Nanophotonics</td>
</tr>
<tr>
<td>&gt; The Biosphere</td>
<td>Imaging Science</td>
<td>Scanning Probe and Electron Microscopy</td>
</tr>
<tr>
<td>Chemistry 2</td>
<td><strong>Select two electives</strong></td>
<td>Select two electives</td>
</tr>
<tr>
<td>Statistics and Mathematics for Science</td>
<td></td>
<td></td>
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<tr>
<td>Introduction to Materials</td>
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<tr>
<td>Physics in Action</td>
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</tbody>
</table>
COURSE DESCRIPTION
Chemistry is the science of matter, and the basis of most of today’s scientific advances. With its dynamic combination of practice and theory, this major gives you insight into how chemical substances work and why. The core subjects will develop your advanced problem-solving skills, and the electives will allow you to learn the basic concepts, vocabulary and patterns of thought in a second discipline.

You’ll have access to high technology instruments and laboratory facilities. UTS has strong links with major employers, such as ANSTO and CSIRO, which offer students valuable networking opportunities.

CAREER OPTIONS INCLUDE
Chemist, food and wine producer, laboratory technician, science teacher, QC analyst (pharmaceutical), process development technologist, aquatic chemist, chemical oceanographer, analytical and clinical chemist, development chemist, environmental chemist, geochemist, organic chemist, research chemist, regulatory toxicologist, molecular scientist, organic analytical chemist.

For more career options, visit www.science.uts.edu.au/future

COURSE STRUCTURE - APPLIED CHEMISTRY MAJOR

Year 1
Mathematical Modelling for Science
Chemistry 1
Foundations of Physics

Select one of the following:
> Cell Biology and Genetics
> The Biosphere
Chemistry 2
Statistics and Mathematics for Science
Introduction to Materials
Physics in Action

Year 2
Organic Chemistry 1
Chemical Safety and Legislation
Physical Chemistry 1
Organic Chemistry 2
Inorganic Chemistry 1
Analytical Chemistry 1

Select two electives

Year 3
Analytical Chemistry 2
Inorganic Chemistry 2
Polymer Science
Analytical Chemistry 3
Physical Chemistry 2
Surface Processes

Select two electives

KEY INFORMATION
2014 ATAR: 71.65
Duration: 3 years (full time)
6 years (part time)
Location: City campus
UAC Code: 607005
UTS Course Code: C10242

Combine this Degree with:
Business, Engineering, International Studies and Law – see page 34
Recommended Year 12 Subjects:
Maths Extension 1, Physics, Chemistry, Maths, 2 units of English, 2 units of Science
Bonus Points: Available, see page 44
How to apply: See page 44
Professional recognition and accreditation: Royal Australian Chemical Institute (RACI)
**FORENSIC SCIENCE**

**Specialist Degree: Bachelor of Forensic Science in Applied Chemistry**

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**KEY INFORMATION**

<table>
<thead>
<tr>
<th>2014 ATAR:</th>
<th>78.10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Duration:</strong></td>
<td>3 years (full time) 6 years (part time)</td>
</tr>
<tr>
<td><strong>Location:</strong></td>
<td>City campus</td>
</tr>
<tr>
<td><strong>UAC Code:</strong></td>
<td>607020</td>
</tr>
<tr>
<td><strong>UTS Course Code:</strong></td>
<td>C10244</td>
</tr>
</tbody>
</table>

**Recommended Year 12 Subjects:**
- Maths Extension 1, Chemistry, Physics, Maths, 2 units of English, 2 units of Science

**Bonus Points:** Available, see page 44

**How to Apply:** See page 44

**Professional recognition and accreditation:** Australian and New Zealand Forensic Science Society (ANZFSS), Royal Australian Chemical Institute (RACI)

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**COURSE DESCRIPTION**

This course not only gives you insight into how science can solve and prevent crime and terrorism, but also why chemistry is the main underpinning discipline of the forensic scientist.

You’ll have access to high technology instruments and laboratory facilities many of which are found in commercial operational forensic laboratories, thus developing your advanced analytical, problem-solving and communication skills.

You’ll graduate with a professional qualification in both forensic science and applied chemistry, highly adaptable and practical scientific skills, and a thorough theoretical grounding in both specialisations.

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**CAREER OPTIONS INCLUDE**

Scene of crime officer, forensic trace evidence specialist, laboratory manager, analytical chemist, science teacher, lecturer or academic, clinical toxicologist, forensic toxicologist, regulatory toxicologist, forensic entomologist, forensic scientist, team leader in investigations, forensic chemist, forensic anthropology, laboratory service management/operations, research associate, analytical technician.

For more career options, visit [www.science.uts.edu.au/future](http://www.science.uts.edu.au/future)

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**COURSE STRUCTURE - BACHELOR OF FORENSIC SCIENCE IN APPLIED CHEMISTRY**

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mathematical Modelling for Science</strong></td>
<td><strong>Organic Chemistry 1</strong></td>
<td><strong>Analytical Chemistry 2</strong></td>
</tr>
<tr>
<td><strong>Chemistry 1</strong></td>
<td><strong>Chemical Safety and Legislation</strong></td>
<td><strong>Chemical Criminalistics</strong></td>
</tr>
<tr>
<td><strong>Foundations of Physics</strong></td>
<td><strong>Physical Chemistry 1</strong></td>
<td><strong>Forensic Toxicology</strong></td>
</tr>
<tr>
<td><strong>Statistics and Mathematics for Science</strong></td>
<td><strong>Crime Scene Investigation</strong></td>
<td><strong>Physical Chemistry 2</strong></td>
</tr>
<tr>
<td><strong>Chemistry 2</strong></td>
<td><strong>Organic Chemistry 2</strong></td>
<td><strong>Analytical Chemistry 3</strong></td>
</tr>
<tr>
<td><strong>Principles of Forensic Science</strong></td>
<td><strong>Inorganic Chemistry 1</strong></td>
<td><strong>Chemistry and Pharmacology of Recreational Drugs</strong></td>
</tr>
<tr>
<td><strong>Select one of the following:</strong></td>
<td><strong>Analytical Chemistry 1</strong></td>
<td><strong>Fire and Explosion Investigation</strong></td>
</tr>
<tr>
<td>&gt; Cell Biology and Genetics</td>
<td><strong>Physical Evidence</strong></td>
<td><strong>Select one of the following:</strong></td>
</tr>
<tr>
<td>&gt; The Biosphere</td>
<td></td>
<td>&gt; Forensic Statistics</td>
</tr>
<tr>
<td><strong>Select one of the following:</strong></td>
<td></td>
<td>&gt; Inorganic Chemistry 2</td>
</tr>
<tr>
<td>&gt; Introduction to Materials</td>
<td></td>
<td>&gt; Polymer Science</td>
</tr>
<tr>
<td>&gt; Physics in Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; Human Anatomy and Physiology</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
KEY INFORMATION

2014 ATAR: 85.00
Duration: 3 years (full time)
6 years (part time)
Location: City campus
UAC Code: 607025
UTS Course Code: C10174

Recommended Year 12 Subjects:
Maths Extension 1, Chemistry, Maths, 2 units of English, 2 units of Science
Bonus Points: Available, see page 44
How to Apply: See page 44
Professional recognition: Australian and New Zealand Forensic Science Society (ANZFSS)

COURSE DESCRIPTION

You’ll gain expertise in both forensic biology and biomedical science. You’ll also address how the human body works at the cellular level, and apply this knowledge to forensic investigations. You’ll obtain hands-on experience and develop your critical thinking and problem-solving skills in the field and lab.

You’ll learn how crimes are solved through forensic investigations of human evidence (DNA, bodily fluids and tissues), collection and handling of evidence, crime scene investigation and legal issues. You’ll have access to one of the best, world-class science laboratories in Australia, and will be in contact with leading forensic scientists.

UTS also has strong links with federal and state police services and government forensic laboratories, giving you the opportunity to network with future employers.

CAREER OPTIONS INCLUDE

Scene of crime officer, DNA profiler, forensic laboratory scientists, biomedical scientist, toxicology scientist, expert witness. Graduates can find employment in forensic labs for federal and state police, DNA testing labs and medical firms.

For more career options, visit www.science.uts.edu.au/future

COURSE STRUCTURE - BACHELOR OF FORENSIC BIOLOGY IN BIOMEDICAL SCIENCE

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 1</td>
<td>Metabolic Biochemistry</td>
<td>DNA Profiling</td>
</tr>
<tr>
<td>Cell Biology and Genetics</td>
<td>General Microbiology</td>
<td>Investigation of Human Remains</td>
</tr>
<tr>
<td>Physical Aspects of Nature</td>
<td>Histology</td>
<td>Crime Scene Investigation</td>
</tr>
<tr>
<td>Statistical Design and Analysis</td>
<td>Forensic Statistics</td>
<td>Complex Forensic Cases (Biology)</td>
</tr>
<tr>
<td>Human Anatomy and Physiology</td>
<td>Molecular Biology 1</td>
<td>Complex Forensic Cases (Law for Biology)</td>
</tr>
<tr>
<td>Chemistry 2</td>
<td>Analytical Biochemistry</td>
<td>Select one of the following:</td>
</tr>
<tr>
<td>Biocomplexity</td>
<td>Anatomical Pathology</td>
<td>&gt; Molecular Biology 2</td>
</tr>
<tr>
<td>Principles of Forensic Science</td>
<td></td>
<td>&gt; Clinical Bacteriology</td>
</tr>
<tr>
<td></td>
<td>Select one of the following:</td>
<td>&gt; Medical and Diagnostic Biochemistry</td>
</tr>
<tr>
<td></td>
<td>&gt; Epidemiology and Public Health Microbiology</td>
<td>&gt; Advanced Haematology</td>
</tr>
<tr>
<td></td>
<td>&gt; Introductory Haematology and Immunology</td>
<td>&gt; Advanced Immunology</td>
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<tr>
<td></td>
<td></td>
<td>Select two of the following:</td>
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<tr>
<td></td>
<td></td>
<td>&gt; Transfusion Science</td>
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<tr>
<td></td>
<td></td>
<td>&gt; Epidemiology and Public Health Microbiology</td>
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<tr>
<td></td>
<td></td>
<td>&gt; Biochemistry, Genes and Disease</td>
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<tr>
<td></td>
<td></td>
<td>&gt; Parasitology</td>
</tr>
</tbody>
</table>
What does your job entail?
Every day is a little different. The examinations I conduct will depend on the type of document I have received in the lab. The NSW Police Force Document Examination Section assists operational police by examining documents related to serious crime.
In any given week, I could be examining a counterfeit passport or a forged cheque or a handwritten threat letter.

What part of your work inspires you the most?
The work I do keeps me inspired because of the ever-changing technological landscape that is influencing younger writers and societies’ increasing reliance on technology and its uses in electronic signature capture and biometrics.

It’s important for Forensic Document Examiners to maintain relevance and keep abreast of research across the discipline.

Do you find the skills you learnt during your degree useful and versatile?
The skills I learnt during my UTS degree have been transferable in the workplace. Similar personal protective equipment worn during practicals at university is used in my lab. I also write Reports and Expert Certificates, which I was already producing during my degree.

The analytical and research skills gained through subjects such as “Crime Scene Investigation” and “Complex Forensic Cases - Law” have also proven to be useful in my everyday work.

During university, we were given the opportunities to give oral presentations and produce posters for scientific conferences. These skills are used when I train Detectives or present on services that is being offered in my Section. Meeting deadlines required good time management skills, resourcefulness and efficient work practices which was also honed during my University studies.
## Course Structure - Biomedical Science Major

### Year 1
- Chemistry 1
- The Biosphere
- Cell Biology and Genetics
- Statistical Design and Analysis
- Chemistry 2
- Biocomplexity
- Human Anatomy and Physiology
- Physical Aspects of Nature

### Year 2
- General Microbiology
- Metabolic Biochemistry
- Histology
- Molecular Biology 1
- Select two of the following:
  - Analytical Biochemistry
  - Epidemiology and Public Health Microbiology
  - Introductory Haematology and Immunology
- Select two electives

### Year 3
- Select three of the following:
  - Molecular Biology 2
  - Clinical Bacteriology
  - Medical and Diagnostic Biochemistry
  - Advanced Haematology
  - Advanced Immunology
- Select three of the following:
  - Transfusion Science
  - Biochemistry, Genes and Disease
  - Parasitology
  - Anatomical Pathology
- Select two electives

---

* See page 9 for more detail on the difference between a Bachelor of Science degree and a Specialist degree.
KEY INFORMATION

Bachelor of Science (Biotechnology)
2014 ATAR: 77.45
UAC Code: 607015
UTS Course Code: C10242

Bachelor of Biotechnology (specialist degree)
2014 ATAR: 75.00
UAC Code: 607045
UTS Course Code: C10172

Duration:
3 years (full time)
6 years (part time)

Location:
City campus

Combine this Degree with:
Business, Engineering, International Studies and Law – see page 34

Recommended Year 12 Subjects:
Maths Extension 1, Chemistry, Maths, 2 units of English, 2 units of Science

Bonus Points: Available, see page 44

How to apply: See page 44

Professional recognition and accreditation: Australian Biotechnology Association

COURSE DESCRIPTION

You’ll study the biological processes of living organisms and learn the skills needed to naturally manipulate these processes in the development of new medicine, food and organic substances.

Biotechnology professionals use the above techniques to create new medicines, foods and organic substances by applying gene technology and other natural processes. The broad range of electives allows you to tailor the course to suit your interests.

This degree also covers ethical issues, hazard management and intellectual property issues.

CAREER OPTIONS INCLUDE

Product development in a variety of industries including pharmaceuticals, agriculture, wineries or breweries. Quality control in food and public health, drugs research such as anti-cancer vaccines, defence technologies, and the mining industry.

For more career options, visit www.science.uts.edu.au/future

COURSE STRUCTURE - BIOTECHNOLOGY MAJOR

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
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</thead>
<tbody>
<tr>
<td>Chemistry 1</td>
<td>General Microbiology</td>
<td>Molecular Biology 2</td>
</tr>
<tr>
<td>The Biosphere</td>
<td>Metabolic Biochemistry</td>
<td>Biobusiness and Environmental Biotechnology</td>
</tr>
<tr>
<td>Cell Biology and Genetics</td>
<td>Biotechnology</td>
<td>Advanced Immunology</td>
</tr>
<tr>
<td>Statistical Design and Analysis</td>
<td>Molecular Biology 1</td>
<td>Bioreactors and Bioprocessing</td>
</tr>
<tr>
<td>Chemistry 2</td>
<td>Select two of the following:</td>
<td>Plant Biotechnology</td>
</tr>
<tr>
<td>Biocomplexity</td>
<td>&gt; Analytical Biochemistry</td>
<td>Select one of the following:</td>
</tr>
<tr>
<td>Human Anatomy and Physiology</td>
<td>&gt; Epidemiology and Public Health Microbiology</td>
<td>&gt; Transfusion Science</td>
</tr>
<tr>
<td>Physical Aspects of Nature</td>
<td>&gt; Introductory Haematology and Immunology</td>
<td>&gt; Biochemistry, Genes and Disease</td>
</tr>
<tr>
<td></td>
<td>Select two electives</td>
<td>&gt; Parasitology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Select two electives</td>
</tr>
</tbody>
</table>

* See page 9 for more detail on the difference between a Bachelor of Science degree and a Specialist degree.
KEY INFORMATION
Bachelor of Science (Medical Science)
2014 ATAR: 77.45
UAC Code: 607015
UTS Course Code: C10242
Bachelor of Medical Science (specialist degree)
2014 ATAR: 88.00
UAC Code: 607050
UTS Course Code: C10184
Duration: 3 years (full time)
          6 years (part time)
Location: City campus

Combine this Degree with: Business, Engineering, International Studies and Law – see page 34
Recommended Year 12 Subjects: Maths Extension 1, Chemistry, Maths, 2 units of English, 2 units of Science
Bonus Points: Available, see page 44
How to apply: See page 44

COURSE DESCRIPTION
You’ll learn the human body’s structure, function and disease processes at the cellular and whole organ level. The course is designed to train graduates for careers in medical and health-related sciences with the aim to produce professional medical scientists with highly adaptable and practical scientific skills accompanied by a thorough grounding in theory.

It also provides excellent foundation knowledge, thus a good preparation for entry into postgraduate degrees such as medicine, dentistry, pharmacy, biomedical engineering, nutrition and dietetics, complementary medicine, public health and health administration.

CAREER OPTIONS INCLUDE
Medical scientist, medical imaging technician, human factors researcher, anaesthetic technician, cardiac technician, operating theatre technician, medical research, cancer research, gene therapy, embryology, geneticist, medical journalist or writer, health professions, nutrition, pathology.

For more career options, visit www.science.uts.edu.au/future

COURSE STRUCTURE - MEDICAL SCIENCE MAJOR

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
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</thead>
<tbody>
<tr>
<td>Chemistry 1</td>
<td>Metabolic Biochemistry</td>
<td>Pharmacology 1</td>
</tr>
<tr>
<td>The Biosphere</td>
<td>General Microbiology</td>
<td>Neuroscience</td>
</tr>
<tr>
<td>Cell Biology and Genetics</td>
<td>Physiological Systems</td>
<td>Select two of the following:</td>
</tr>
<tr>
<td>Statistical Design and Analysis</td>
<td>Molecular Biology 1</td>
<td>&gt; Medical Imaging</td>
</tr>
<tr>
<td>Chemistry 2</td>
<td>Human Pathophysiology</td>
<td>&gt; Select two electives</td>
</tr>
<tr>
<td>Biocomplexity</td>
<td>Select two of the following:</td>
<td></td>
</tr>
<tr>
<td>Human Anatomy and Physiology</td>
<td>&gt; Analytical Biochemistry</td>
<td>Medical Devices and Diagnostics</td>
</tr>
<tr>
<td>Physical Aspects of Nature</td>
<td>&gt; Epidemiology and Public Health Microbiology</td>
<td>Pharmacology 2</td>
</tr>
<tr>
<td></td>
<td>&gt; Introductory Haematology and Immunology</td>
<td>Medical and Applied Physiology</td>
</tr>
<tr>
<td></td>
<td>Select one elective</td>
<td>Select one elective</td>
</tr>
</tbody>
</table>

* See page 9 for more detail on the difference between a Bachelor of Science degree and a Specialist degree.
What motivated you to study this degree?
I was always passionate about science and was extremely intrigued about the human body and the way it functions so this influenced me to seek a degree in science. Nonetheless, I was equally interested in business and wanted to study a course that give me both areas.

What do you enjoy most about your degree?
Utmost, I enjoy the balancing of fields where I can study both areas on a daily basis. Keep studying interesting and challenging!

Why did you choose to study at UTS Science?
My decisions are based on three main factors which are convenience, the vibe and the degree! When I first visited UTS, I felt a really good vibe and vibrancy that I did not expect. UTS is also the only university offering a combined Bachelor of Medical Science with a Bachelor of Business in four years of full-time study.

Studying science at UTS is different. I wasn’t expecting it to be so practical but I do attend at least three hours of lab classes for each subject weekly! Within these lab classes, I learnt the most, especially when it comes to grasping concepts that have causes and effects. For example, the way the heart pumps blood or the reaction of solutions.

Any advice you would give to students studying this degree?
Relax. Ask for help when you need it. The degree is not harder than any other you may choose but it does take time to grasp concepts and to complete assignments. The secret is to have good time management – do your assignments promptly and they normally occur about the same time.

“UTS is the only university to offer a combined degree in Medical Science and Business with 4 years of study.”
TRADITIONAL CHINESE MEDICINE

Specialist Degree: Bachelor of Health Science in Traditional Chinese Medicine

KEY INFORMATION

2014 ATAR: 75.90
Duration: 4 years (full time)
8 years (part time)
Location: City campus
UAC Code: 607055
UTS Course Code: C10186

Combine this Degree with: International Studies – see page 34
Recommended Year 12 Subjects: Biology, 2 units of English, 2 units of Science
Bonus Points: Available, see page 44
How to Apply: See page 44
Professional recognition and accreditation: Accredited by the Chinese Medicine Board of Australia. Graduates are eligible for professional membership

COURSE DESCRIPTION

You’ll learn about Chinese medicine, pharmacology of Chinese herbal medicine, Chinese massage, acupuncture and Chinese diagnostics

This course also discusses the role of Chinese medicine as a complementary health care system. It aims to produce professional Chinese medicine practitioners with highly adaptable and practical clinical skills accompanied by a thorough grounding in theory.

UTS has an on-campus Chinese medicine clinic where students gain clinical experience from their first year of study.

You’ll also have the opportunity to transfer into the combined degree of Bachelor of Health Science in Traditional Chinese Medicine, Bachelor of Arts in International Studies (C10164), which involves an additional two years of language and culture training in Australia and China.

CAREER OPTIONS INCLUDE

Private practitioner in acupuncture or Chinese herbal medicine, clinical therapist, TCM researcher, nutritional and health consultant.

For more career options, visit www.science.uts.edu.au/future

COURSE STRUCTURE - BACHELOR OF HEALTH SCIENCE IN TRADITIONAL CHINESE MEDICINE

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese Medicine Foundations 1</td>
<td>Chinese Diagnostic System 1</td>
<td>Clinical Features of Disease</td>
<td>Evaluating TCM: Theory, Practice and Research 1</td>
</tr>
<tr>
<td>Point Location and Acupuncture Anatomy</td>
<td>Clinic Level 3 and Acupuncture Techniques 2</td>
<td>Clinic Level 5 and Acupuncture Microsystems</td>
<td>Clinical Practice 1 (TCM)</td>
</tr>
<tr>
<td>Clinical Theory and Clinic Level 1</td>
<td>Pharmacology of Chinese Herbal Medicine</td>
<td>Chinese Herbal Formula 2</td>
<td>Disease States for Traditional Chinese Medicine 2</td>
</tr>
<tr>
<td>Communication for the Complementary Therapist</td>
<td>Pathophysiology and Pharmacology 1</td>
<td>Pathophysiology and Pharmacology 3</td>
<td>Professional Issues in Traditional Chinese Medicine 2</td>
</tr>
<tr>
<td>Introduction to Chinese Herbal Medicine</td>
<td>Chinese Diagnostic System 2</td>
<td>Medical Classics and the History of Chinese Medicine</td>
<td>Clinical Practice 2 (TCM)</td>
</tr>
<tr>
<td>Chinese Medicine Foundations 2</td>
<td>Clinic Level 4 and Acupuncture Techniques 3</td>
<td>Clinical Practicum (Therapy and Diagnosis)</td>
<td>Evaluating TCM: Theory, Practice and Research 2</td>
</tr>
<tr>
<td>Clinic Level 2 and Acupuncture Techniques 1</td>
<td>Chinese Herbal Formula 1</td>
<td>Clinic Level 6</td>
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</tr>
<tr>
<td>Health and Homeostasis</td>
<td>Pathophysiology and Pharmacology 2</td>
<td>Disease States for Traditional Chinese Medicine 1</td>
<td></td>
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</tbody>
</table>
HERBERT HUISKAMP
Bachelor of Health Science in Traditional Chinese Medicine

What did you do before you started your course?
After graduating high school, I enrolled and completed a year of an environmental engineering degree but decided it was not for me and I took a gap year. During that year, I discovered acupuncture and Chinese medicine.

What do you enjoy most about your degree?
The practical and hands-on nature of the course - I don’t know of many degrees where you get regular treatments (massage and acupuncture) as part of your course. The clinical experience and internship is really stimulating and rewarding as you get to interact with real patients and observe practitioners treating patients. Also, the class size has been kept relatively small, where we can get to know one another, which is great.

Why did you choose to study at UTS Science?
UTS Science has a good reputation and the course structure was simpler and balanced between acupuncture and herbal medicine. Plus the central location also helps because it is very convenient and close to bus and train stations.

The standard of education and teaching is very high throughout my studies. Courses are very hands-on and practical, with high quality equipment and resources provided. Computers and study areas are easily accessible throughout campus.

Any advice you would give to students studying this degree?
You will learn new concepts that may not be familiar to you such as names of Chinese herbs and pressure points which could be fascinating.

What would you like to do once you complete your degree?
Pursue postgraduate study and work in a clinical practice.

“It is really stimulating and rewarding as you get to interact with real patients and observe practitioners treating patients”
KEY INFORMATION

2014 ATAR: Not applicable, new major
Duration: 3 years (full time)
6 years (part time)
Location: City campus
UAC Code: 607011
UTS Course Code: C10242

Combine this Degree with:
Business, International Studies, Engineering and Law – see page 34
Recommended Year 12 Subjects:
Maths Extension 1, Chemistry, Maths, 2 units of English, 2 units of Science
Bonus Points: Available, see page 44
How to Apply: See page 44

COURSE DESCRIPTION

You’ll have flexibility with this major because of the wide range of environment subjects available to this major. You choose subjects according to your interests ranging from environmental protection and management to remote sensing, to forest and mountain ecology to marine and fisheries communities.

It is structured around a combination of theoretical, field excursions and laboratory practicals. The aim of this major is to produce graduates who are fluent and exposed to a large section of environmental issues. There are four free choice electives where you choose subjects from any discipline to further extend your specialisation and employment opportunities.

CAREER OPTIONS INCLUDE

You will be well trained and equipped in any jobs related to the environment given the diverse nature of the subjects for this degree, which could include jobs such as environment education officers, conservation consultant, ecologist, ranger, marine park officer, fisheries manager, environment analyst, policy maker, botanist and environmental scientist.

For more career options, visit www.science.uts.edu.au/future

COURSE STRUCTURE - ENVIRONMENTAL SCIENCES MAJOR

You are required to complete 144 credit points or 24 subjects to complete this degree, which equates to 8 subjects annually if you are studying as a full-time student.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2 and 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 1</td>
<td>Select 6 subjects from the following:</td>
</tr>
<tr>
<td>The Biosphere</td>
<td>Geological Processes</td>
</tr>
<tr>
<td>Cell Biology and Genetics</td>
<td>Experimental Design and Sampling</td>
</tr>
<tr>
<td>Statistical Design and Analysis</td>
<td>Ecology</td>
</tr>
<tr>
<td>Chemistry 2</td>
<td>Animal Behaviour and Physiology</td>
</tr>
<tr>
<td>Biocomplexity</td>
<td>Plant Physiology and Ecophysiology</td>
</tr>
<tr>
<td>Human Anatomy and Physiology</td>
<td>Marine Communities</td>
</tr>
<tr>
<td>Physical Aspects of Nature</td>
<td>Environmental Chemistry</td>
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<td>Environmental Forensics</td>
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<td></td>
<td>Select 6 subjects from the following:</td>
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<tr>
<td></td>
<td>GIS and Remote Sensing</td>
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<td>Wildlife Ecology</td>
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<td></td>
<td>Aquatic Ecology</td>
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<td></td>
<td>Biodiversity Conservation</td>
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<td></td>
<td>Stream and Lake Assessment</td>
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<td></td>
<td>Environmental Protection and Management</td>
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<tr>
<td></td>
<td>Forest and Mountain Ecology</td>
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<td></td>
<td>Semi-arid Ecology</td>
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<td></td>
<td>Fisheries Resources</td>
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<td></td>
<td>Marine Geosciences</td>
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<td></td>
<td>Coral Reef Ecosystems</td>
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<td></td>
<td>Marine Productivity and Climate Change</td>
</tr>
<tr>
<td></td>
<td>Alpine and Lowland Ecology</td>
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<tr>
<td></td>
<td>4 Elective Subjects</td>
</tr>
</tbody>
</table>
KEY INFORMATION

2014 ATAR: 71.00
Duration: 3 years (full time)
6 years (part time)
Location: City campus
UAC Code: 607033
UTS Course Code: C10223

Recommended Year 12 Subjects:
Maths Extension 1, Chemistry, Maths, 2 units of English, 2 units of Science
Bonus Points: Available, see page 44
How to apply: See page 44

COURSE DESCRIPTION

You’ll study natural systems, how these systems work, and how detrimental impacts on them can be assessed and recovered. You’ll gain a thorough understanding of the way living organisms function both on land and in water, and the skills to detect and calculate detrimental effects on their function and the environment.

You’ll learn these concepts and skills through a dynamic combination of theory, field and laboratory experiences. Excursions or field trips to places such as the Snowy Mountains, NSW Outback, Heron Island and the Great Barrier Reef, are core components of this course.

CAREER OPTIONS INCLUDE

Biologist, environmental research scientist, environmental consultant, life scientist, aquatic ecologist, coal geologist, geological oceanographer, botanists, plant ecologist, plant pathologist, plant physiologist, plant taxonomist, biological scientist, exploration geologist, hydrogeologist, ranger, hydrologist, pest and weed controllers, entomologist, ecologist, land economist, mapping scientist.

For more career options, visit www.science.uts.edu.au/future

COURSE STRUCTURE - ENVIRONMENTAL BIOLOGY MAJOR

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
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</thead>
<tbody>
<tr>
<td>Chemistry 1</td>
<td>Geological Processes</td>
<td>GIS and Remote Sensing</td>
</tr>
<tr>
<td>The Biosphere</td>
<td>Experimental Design and Sampling</td>
<td>Wildlife Ecology</td>
</tr>
<tr>
<td>Cell Biology and Genetics</td>
<td>Ecology</td>
<td>Aquatic Ecology</td>
</tr>
<tr>
<td>Statistical Design and Analysis</td>
<td>Animal Behaviour and Physiology</td>
<td>Biodiversity Assessment</td>
</tr>
<tr>
<td>Chemistry 2</td>
<td>Plant Physiology and Ecophysiology</td>
<td>Stream and Lake Assessment</td>
</tr>
<tr>
<td>Biocomplexity</td>
<td></td>
<td>Environmental Protection and Management</td>
</tr>
<tr>
<td>Human Anatomy and Physiology</td>
<td></td>
<td>Advances in Ecology</td>
</tr>
<tr>
<td>Physical Aspects of Nature</td>
<td><strong>Select three electives</strong></td>
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<td></td>
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<td><strong>Select one of the following:</strong></td>
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<tr>
<td></td>
<td></td>
<td>&gt; Forest and Mountain Ecology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Semi-arid Ecology</td>
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</tbody>
</table>
**COURSE STRUCTURE - ENVIRONMENTAL FORENSICS MAJOR**

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 1</td>
<td>Geological Processes</td>
<td>GIS and Remote Sensing</td>
</tr>
<tr>
<td>The Biosphere</td>
<td>Experimental Design and Sampling</td>
<td>Biodiversity Assessment</td>
</tr>
<tr>
<td>Cell Biology and Genetics</td>
<td>Ecology</td>
<td>Aquatic Ecology</td>
</tr>
<tr>
<td>Statistical Design and Analysis</td>
<td>Environmental Chemistry</td>
<td>Environmental Law &amp; Science</td>
</tr>
<tr>
<td>Chemistry 2</td>
<td>Environmental Forensics</td>
<td>Stream and Lake Assessment</td>
</tr>
<tr>
<td>Biocomplexity</td>
<td></td>
<td>Environmental Protection and Management</td>
</tr>
<tr>
<td>Human Anatomy and Physiology</td>
<td><strong>Select three electives</strong></td>
<td>Environmental Forensic Law</td>
</tr>
<tr>
<td>Physical Aspects of Nature</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Select three electives</strong></td>
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</tbody>
</table>

**KEY INFORMATION**

- **Bachelor of Environmental Forensics (specialist degree)**
- **2014 ATAR:** 71.00
- **Duration:**
  - 3 years (full time)
  - 6 years (part time)
- **Location:** City campus
- **UAC Code:** 607030
- **UTS Course Code:** C10227

**Recommended Year 12 Subjects:**
- Maths Extension 1
- Chemistry
- Maths
- 2 units of English
- 2 units of Science

**Bonus Points:** Available, see page 44

**How to apply:** See page 44

**COURSE DESCRIPTION**

This course is the first of its kind in Australia. It combines environmental science with studies of legal framework surrounding environmental protection. It focuses on studies of living and non-living components of the environment and on the impacts of human use of environmental resources on the ecosystem.

It is structured around a combination of theoretical, field and laboratory studies of ecology and environmental chemistry, with the aim to produce scientists who contribute to environmental management, policy and planning processes.

**CAREER OPTIONS INCLUDE**

- Endangered species consultant
- Conservation consultant
- Environmental policy adviser
- Work safe regulator
- Environmental media liaison

Graduates could be employed in government, environmental law firms, environmental protection agencies, urban and regional planning, national heritage agencies.

For more career options, visit [www.science.uts.edu.au/future](http://www.science.uts.edu.au/future)
**KEY INFORMATION**

Bachelor of Marine Biology (specialist degree)

- **2013 ATAR:** 72.00
- **Duration:**
  - 3 years (full time)
  - 6 years (part time)
- **Location:** City campus
- **UAC Code:** 607035
- **UTS Course Code:** C10228

**Recommended Year 12 Subjects:** Maths Extension 1, Chemistry, Maths, 2 units of English, 2 units of Science

**Bonus Points:** Available, see page 44

**How to apply:** See page 44

**Professional recognition and accreditation:** Australian Marine Science Association

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**COURSE DESCRIPTION**

This course focuses on how the marine environment works and how it can be better managed. You’ll acquire a thorough understanding of the way plants, animals and micro-organisms function in marine ecosystems, and the skills required to detect and assess detrimental impacts on these marine environments resulting from climate change and human impact.

With a practical focus, this course combines theory, laboratory and real-world experience through field trips to a range of marine environments including the Great Barrier Reef and NSW coast.

UTS has strong links with key industry and government partners through workshops and internships, which create excellent networking opportunities for students.

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**CAREER OPTIONS INCLUDE**

Marine biologist, coastal management, marine education, aquatic research, climate change research, fisheries scientist. Graduates work for fisheries, national parks and wildlife, environmental protection authorities, natural resources and planning consultancies.

For more career options, visit [www.science.uts.edu.au/future](http://www.science.uts.edu.au/future)

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**COURSE STRUCTURE - MARINE BIOLOGY MAJOR**

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 1</td>
<td>Geological Processes</td>
<td>GIS and Remote Sensing</td>
</tr>
<tr>
<td>The Biosphere</td>
<td>Experimental Design and Sampling</td>
<td>Aquatic Ecology</td>
</tr>
<tr>
<td>Cell Biology and Genetics</td>
<td>Ecology</td>
<td></td>
</tr>
<tr>
<td>Statistical Design and Analysis</td>
<td>Animal Behaviour and Physiology</td>
<td></td>
</tr>
<tr>
<td>Chemistry 2</td>
<td>Plant Physiology and Ecophysiology</td>
<td>Select one of the following:</td>
</tr>
<tr>
<td>Biocomplexity</td>
<td>Marine Communities**</td>
<td>&gt; Fisheries Resources</td>
</tr>
<tr>
<td>Human Anatomy and Physiology</td>
<td><strong>Select two electives</strong></td>
<td>&gt; Marine Geosciences</td>
</tr>
<tr>
<td>Physical Aspects of Nature</td>
<td></td>
<td>Coral Reef Ecosystems**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Environmental Protection and Management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine Primary Producers**</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Select two electives</strong></td>
</tr>
</tbody>
</table>

**Subject includes field excursion of more than one city.**
UTS combined degrees open up a broader range of careers opportunities. You can combine your science or mathematics degree with another specialisation such as business, international studies, engineering and law, giving you access to two specialisations. You can complete both degrees in a shorter duration in comparison of completing them separately.

### Bachelor of Science, Bachelor of Business
- **2014 ATAR:** 85.75
- **UAC Code:** 609170
- **UTS Course Code:** C10162

### Bachelor of Medical Science, Bachelor of Business
- **2014 ATAR:** 93.15
- **UAC Code:** 609175
- **UTS Course Code:** C10163

### Bachelor of Biotechnology, Bachelor of Business
- **2014 ATAR:** 89.75
- **UAC Code:** 609176
- **UTS Course Code:** C10169

**COURSE STRUCTURE**
You are required to complete a total of 192 credit points or 32 subjects, comprising equal part of science and business subjects.

For the combined degree Bachelor of Science, Bachelor of Business, you choose one major each from both the science and business component. Refer to the diagram of majors available.

For both the combined degrees, Bachelor of Medical Science, Bachelor of Business and Bachelor of Biotechnology, Bachelor of Business, you specialise in the chosen science disciplines which are medical science or biotechnology, and choose a business major.

**Duration:** 4 years (full-time)
**Bonus Points:** Available, see page 44
**How to Apply:** See page 44

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### MAJORS AVAILABLE
For more details on specific science majors, please refer to the relevant single major/degree on pages 10 to 33

### BACHELOR OF SCIENCE MAJORS*
- Applied Chemistry
- Applied Physics
- Nanotechnology

### Life Sciences Foundation Stream
- Biotechnology
- Biomedical Science
- Medical Science
- Environmental Sciences

### Physical Sciences Foundation Stream
- Mathematics
- Statistics

### Mathematical Sciences

You can complete these degrees over four years of full-time study with approximately 16 hours each week on campus. You can also transfer from your *single science or maths degree* into a combined degree should you meet academic performance requirements.
### CAREERS

<table>
<thead>
<tr>
<th>Bachelor of Science</th>
<th>Bachelor of Medical Science, Bachelor of Business</th>
<th>Bachelor of Biotechnology, Bachelor of Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career options</td>
<td>Career options</td>
<td>Career options</td>
</tr>
<tr>
<td>Gives you practical skills and knowledge that employers demand in both science and business-related fields. Depending on the chosen majors, graduates can work in commodity and resource trading, pharmaceutical industry, as scientists in leading consumer goods companies, health services, medical research, hospitals or environmental protection agencies.</td>
<td>Designed to produce graduates for scientific practice or entry into business management in health and medical businesses or institutions. This combined degree offer opportunities in the growth area of health services and management.</td>
<td>Designed to produce graduates for scientific practice in the biotechnology industry or entry into business management in science-based businesses or institutions. This combined degree allows graduates to choose between a career in business or biotechnological science. It is particularly suitable for a career in the rapidly expanding and profitable biotechnology business sector where both disciplines are required.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Possible jobs</th>
<th>Possible jobs</th>
<th>Possible jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>You could find jobs as an analyst, consultant, statistician, communicator, marketer, researcher and scientist within government agencies, manufacturing, product development, scientific publishing, banking and finance, scientific and research organisations and large corporations.</td>
<td>Job opportunities include any positions in health services and management in government, hospitals, industry and medical research organisations. Job options include hospital scientist, lab or medical pathology, technician, medical or science writer, analyst, consultant, marketer, product developer, etc.</td>
<td>Job opportunities include manager or scientist in a bio-analytical lab, bio-business, CSIRO, government biotechnology support, regulatory agency, stockbroking, vaccine manufacture or wine production. Graduates can also be an analyst, biotechnologist, marketer, product developer or research scientist with industry or scientific research organisation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>More info</th>
<th>More info</th>
<th>More info</th>
</tr>
</thead>
</table>

### BACHELOR OF BUSINESS MAJORS*

<table>
<thead>
<tr>
<th>Business majors</th>
<th>Business majors</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; Accounting</td>
<td>&gt; International Business</td>
</tr>
<tr>
<td>&gt; Economics</td>
<td>&gt; Management</td>
</tr>
<tr>
<td>&gt; Finance</td>
<td>&gt; Marketing</td>
</tr>
<tr>
<td>&gt; Human Resource Management</td>
<td>&gt; Financial Services</td>
</tr>
<tr>
<td></td>
<td>&gt; Marketing</td>
</tr>
<tr>
<td></td>
<td>&gt; Communicaton</td>
</tr>
</tbody>
</table>
Combining Science with International Studies

Bachelor of Science*, Bachelor of Arts in International Studies
2014 ATAR: 78.65
UAC Code: 609250
UTS Course Code: C10243

Bachelor of Medical Science, Bachelor of Arts in International Studies
2014 ATAR: 89.95
UAC Code: 609255
UTS Course Code: C10167

Bachelor of Health Science in Traditional Chinese Medicine, Bachelor of Business Arts in International Studies (China only)
2014 ATAR: 75.90
UAC Code: 609346
UTS Course Code: C10164

Bachelor of Mathematics and Finance, Bachelor of Business Arts in International Studies
2014 ATAR: 85.90
UAC Code: 609220
UTS Course Code: C10157

You will develop practical scientific and mathematical skills with an international dimension. International study is unique to UTS, and allows you to gain qualifications in language, intercultural and international awareness to a specific country of your choice. This added dimension expands your career opportunities and aims to make you more marketable to future employers in the global workplace.

You will be living overseas for a year experiencing the international component as part of your combined degree.

WHAT WILL I LEARN IN THE INTERNATIONAL STUDIES COMPONENT?

> Learn a language – you don’t need any previous language experience. Language and culture subjects are catered to both beginners and students with prior language knowledge.

> International connections – you will gain thorough knowledge of another language and make overseas connections.

> Open your mind – you will gain confidence to take your career globally.

> UTS support – you will be supported by UTS in partnership with universities in other countries.

COURSE STRUCTURE

You are required to complete a total of 240 credit points or 40 subjects, comprising 24 science subjects and 16 language and culture subjects. The Bachelor of Arts in International Studies is not offered as a separate degree, but is completed only in combination with a professional degree.

Duration: 5 years (full-time)
Bonus Points: Available, see page 44
How to Apply: See page 44

MAJORS AVAILABLE
For more details on specific science majors, please refer to the relevant single major/degree on pages 10 to 33

BACHELOR OF SCIENCE MAJORS*

> Applied Chemistry
> Applied Physics
> Nanotechnology

Physical Sciences Foundation Stream

> Biotechnology
> Biomedical Science
> Medical Science
> Environmental Sciences

Life Sciences Foundation Stream

> Mathematics
> Statistics

Mathematical Sciences

Note: *Professional degree subjects indicate your science and maths degree.

For the combined degree Bachelor of Science, Bachelor of Arts in International Studies, you choose one major from both the science and international studies component. Refer to the diagram of majors available.
### CAREERS

<table>
<thead>
<tr>
<th>Bachelor of Science, Bachelor of Arts in International Studies</th>
<th>Bachelor of Medical Science, Bachelor of Arts in International Studies</th>
<th>Bachelor of Health Science in Traditional Chinese Medicine, Bachelor of Arts in International Studies (China)</th>
<th>Bachelor of Mathematics &amp; Finance, Bachelor of Arts in International Studies</th>
<th>Bachelor of Mathematics &amp; Computing, Bachelor of Arts in International Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Career options</strong></td>
<td>Multinational pharmaceutical companies look to medical science graduates to work in drug registration, clinical trials coordination, as technical or marketing representatives and as policy analyst</td>
<td>Graduates will be equipped for private and public practice. Country of choice: China is the only in-country study available to this combined degree.</td>
<td>Graduates will find interesting and rewarding employment in quantitative and financial analysis in major financial institutions such as banks, insurance companies and government instrumentalities.</td>
<td>Demand for mathematics and computing skills is increasing as quantitative analysis becomes more widespread in dealing with commercial and industrial problems.</td>
</tr>
<tr>
<td><strong>Possible jobs</strong></td>
<td>Include positions in government departments, private and public hospitals and public health units, nationally and internationally.</td>
<td>Include acupuncture or Chinese herbal medicine practitioner in private or community health services.</td>
<td>Include positions in derivative pricing and risk management, portfolio management, stock market analysis, and other areas of high responsibility and high reward in the finance industry.</td>
<td>Include programmer, quantitative analyst, software engineer, systems analyst and technical applications software developer.</td>
</tr>
</tbody>
</table>

**More info**  
www.handbook.uts.edu.au/courses/c10164.html  
www.handbook.uts.edu.au/courses/c10224.html  
www.handbook.uts.edu.au/courses/c10164.html

### BACHELOR OF ARTS IN INTERNATIONAL STUDIES*

- Argentina
- Canada
- Chile
- China
- Colombia
- France
- Germany
- Italy
- Japan
- Latino USA
- Mexico
- Spain
- Switzerland
- Spanish
- Chinese
- Italian
- Japanese

**In-country study (Country of choice)**

**Learn a new language**
COMBINED DEGREES

Combining Science with Engineering

Bachelor of Engineering, Bachelor of Science,
2014 ATAR: 85.00
UAC Code: 609360
UTS Course Code: C10073

Bachelor of Engineering, Bachelor of Medical Science
2014 ATAR: 85.00
UAC Code: 609370
UTS Course Code: C10075

Bachelor of Engineering, Bachelor of Biotechnology
2014 ATAR: 85.00
UAC Code: 609380
UTS Course Code: C10078

Duration: 5 years (full-time)
Bonus Points: Available, see page 44
How to Apply: See page 44

These combined degrees are designed to give you opportunities in science, the scientific basis of engineering and technology, and the technology itself.

The aim is to produce graduates with professional qualifications in science and engineering who are well prepared to pursue a career in either field, or one that combines the skills of both. You will develop valuable skills highly prized by employers, including the technological expertise to understand scientific problems and the design skills to implement solutions.

CAREER

Depend on the majors and subjects chosen which include research, design and development, and scientific management. You could find work in areas such as biotechnology, communications, energy and resource exploration, environmental protection, medical technology, molecular biology and materials technology, nanotechnology and transportation.

For more details, visit www.handbook.uts.edu.au/sci/ug

Combining Science with Law

Bachelor of Laws, Bachelor of Science,
2014 ATAR: 97.00
UAC Code: 609060
UTS Course Code: C10126

Bachelor of Laws, Bachelor of Medical Science
2014 ATAR: 97.00
UAC Code: 609065
UTS Course Code: C10131

Duration: 5 years (full-time)
Bonus Points: Available, see page 44
How to Apply: See page 44

These combined degrees are jointly offered by UTS Law and UTS Science with the aim to produce graduates with professional legal qualification that satisfies the academic requirements only for admission as a lawyer together with a science specialisation.

Law is important in many areas of science, including research, industrial and commercial enterprise.

These degrees address the increasing need for scientific expertise among lawyers. You will develop critical and analytical skills necessary when making decisions and understanding complex links between science and law, increasing employment prospects and career opportunities in both fields.

CAREER

You could find work as a lawyer in areas where strong scientific backgrounds are valued, such as conservation and resource management, climate change advisory roles, defence technologies, environmental pollution regulations, finance, human health, industrial and occupational health and safety, pharmaceutical and biotechnological R&D and scientific patents.

For more details, visit www.handbook.uts.edu.au/sci/ug
**Bachelor of Science, Bachelor of Creative Intelligence and Innovation**

**KEY INFORMATION**
- 2014 ATAR: 74.00
- Duration: 4 years (full-time)
- Location: City campus
- UAC Code: 609585
- UTS Course Code: C10330

**Bonuses Points**: Available, see page 44
**How to apply**: See page 44

You will gain high-level conceptual thinking and problem-solving practices that lead to the development of innovative, creative and entrepreneurial outcomes. These creative intelligence competencies enable you to navigate across a rapidly accelerating world of change.

In the science component of this combined degree, you select a chosen specialisation or major according to your interests to tailor your study program.

Bachelor of Science available majors includes:
- Applied Chemistry
- Applied Physics
- Nanotechnology
- Mathematics
- Statistics
- Biotechnology
- Biomedical Science
- Medical Science
- Environmental Sciences

The flexibility of this course allows students to either specialise in a specific professional area or to develop skills and knowledge in a range of scientific disciplines. All majors aim to produce professional scientists with a thorough grounding in theory and highly adaptable and practical scientific, experimental and computational skills relevant to the discipline chosen.

**COURSE STRUCTURE**

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer Semester</td>
<td>Creative Practice and Methods (8cp)</td>
<td>Creative and Complexity (8cp)</td>
<td>Initiatives and entrepreneurship (8cp)</td>
</tr>
<tr>
<td>Autumn semester</td>
<td>4 science subjects (24cp)</td>
<td>4 science subjects (24cp)</td>
<td>4 science subjects (24cp)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Envisioning futures (6cp)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Select one of the following (6cp):</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Innovation internship A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>or</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Speculative Start-up</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Innovation Capstone: Realisation and Transformation (12cp)</td>
</tr>
<tr>
<td>July session</td>
<td>Problems to possibilities (8cp)</td>
<td>Past, present, future of innovation (8cp)</td>
<td>Leading innovation (8cp)</td>
</tr>
<tr>
<td>Spring semester</td>
<td>4 science subjects (24cp)</td>
<td>4 science subjects (24cp)</td>
<td>4 science subjects (24cp)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Professional Practice at the cutting edge (6cp)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Innovation Internship B (6cp)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Innovation Capstone: Research and Development (12cp)</td>
</tr>
</tbody>
</table>

**CAREER**

You will be highly versatile as they can work in almost any industry such as biotechnology, biomedical science, medical science, environmental management and forensics, mathematics, statistical modelling, applied chemistry, applied physics, nanotechnology and material science.

By being creative thinkers, initiators of new ideas, scenario planners, global strategists, open network designers or sustainable futures innovators within your chosen field of study, you will maximise the potential of your chosen profession, making you highly sought after.

For more detailed information, see [http://handbook.uts.edu.au/courses/c10330.html](http://handbook.uts.edu.au/courses/c10330.html)
Scholarships at UTS can either be university-wide, where the scholarship is open to students from all faculties, or they can be faculty-specific, where the scholarships are only available to students in a specific faculty or area of study.

**FACULTY OF SCIENCE SCHOLARSHIPS**

**DEAN’S SCHOLARSHIP**
- Valued at $10,000 each, and are highly competitive. They are awarded on the basis of academic merit.
- Awarded to the top two ATAR applicants (ATAR of 99.5 or above, excluding bonus points) who undertake any science or mathematics bachelor degree within the faculty.

**INDIGENOUS SCHOLARSHIP**
- To encourage outstanding indigenous students to undertake a science or mathematics degree.
- Valued at $6,000 to be paid over three years of study.
- Awarded on the basis of demonstrated commitment to academic study.

**UTS SCIENCE SCHOOL’S RECOMMENDATION SCHOLARSHIPS**
- Aimed to encourage high school students with a keen interest in science and mathematics to take the next step to study at UTS.
- Valued at $6,000 to be paid over three years of study.
- To be eligible to receive this scholarship you must be nominated by your school principal and have received an offer through UAC to one of the UTS Science eligible undergraduate courses as listed below.

**HIGH ACHIEVERS SCHOLARSHIP**
Aimed at recognising outstanding students and their academic achievements.
- Valued at $6,000 and will be paid over three years of study.
- Awarded on the basis of academic merit to students with a minimum ATAR of 98 and above, who apply to one of the below degrees at UTS.
- Refer to eligible list of courses.

ELIGIBLE COURSES FOR UTS SCIENCE SCHOOL’S RECOMMENDATION AND HIGH ACHIEVERS SCHOLARSHIPS
- Bachelor of Science in Mathematics / Statistics [UAC Code: 607003]
- Bachelor of Science in Applied Chemistry [UAC Code: 607005]
- Bachelor of Science in Nanotechnology [UAC Code: 607007]
- Bachelor of Science in Applied Physics [UAC Code: 607009]
- Bachelor of Science in Environmental Sciences [UAC Code: 607011]
- Bachelor of Environmental Forensics [UAC Code: 607030]
- Bachelor of Marine Biology [UAC Code: 607035]
- Bachelor of Environmental Biology [UAC Code: 607033]
- Bachelor of Mathematics and Finance [UAC Code: 609040]
- Bachelor of Mathematics and Computing [UAC Code: 609045]
- Combined degree Bachelor of Science#, Bachelor of Arts in International Studies [UAC Code: 609250]
- Combined degree Bachelor of Science#, Bachelor of Business [UAC Code: 609170]

# Only applicable to the following majors: Mathematics, Statistics, Applied Chemistry, Applied Physics, Nanotechnology and Environmental Sciences
Why did you choose to study a science degree at UTS?

I was so glad to get the scholarship at my dream university, and now I’m here having a great time doing chemistry!

How has the scholarship helped you in your studies?

I was always fascinated by science. My Year 12 chemistry teacher knew how passionate I was about science and that I wanted to go to UTS. She told me that I should apply for the School’s Recommendation Scholarship, and that I had a really good chance of getting it, and she was right!

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I was so glad to get the scholarship at my dream university, and now I’m here having a great time doing chemistry!
An Honours degree is the first step towards a career in research. It gives you the opportunity to draw together your previous science or mathematics studies and focus your knowledge, skills and intellect on an exciting piece of original research.

It’s a unique opportunity for students to explore their research potential by designing an independent project and producing a thesis of their work.

Honours in UTS:Science is a highly regarded additional year of undergraduate study available to students who have recently completed their undergraduate degree.

**WHAT ARE THE BENEFITS OF DOING HONOURS?**

An honours year in science or mathematics opens doors to many opportunities, especially in the field of scientific research.

Honours students have the opportunity to undertake exciting, original research under the supervision of internationally recognised researchers, contributing to real discoveries and publishing one or more scientific papers.

Honours also vastly improves career prospects because it’s proof to future employers that you can plan and organise work, find solutions to problems, work independently and communicate ideas and results both verbally and on paper.

If you intend to pursue a career in research, an honours degree is highly recommended and is the pre-requisite for enrolling in a PhD.

**WHAT DOES IT INVOLVE?**

You’ll be responsible for a research project of your choice, subject to faculty approval. You’ll work in collaboration with a faculty academic supervisor, where you’ll seek advice and guidance, but much of your research will be done on your own.

There’ll be no formal classes to attend, but you’ll meet with your supervisor regularly. In some cases, your work may be undertaken in external laboratories such as hospitals, CSIRO or other industry centres. This provides valuable industry experience and networking opportunities.

Honours projects on offer differ each year. To see detailed honours projects, visit [www.science.uts.edu.au/future](http://www.science.uts.edu.au/future)

**AM I ELIGIBLE?**

You must have consistently scored a credit average or above throughout your undergraduate studies. You should have completed a relevant degree or major relating to the intended Honours project or discipline. Applications for entrance into the Honours Program is highly competitive.

**HOW DO I APPLY?**


Honours vastly improves career prospects because it’s proof to future employers that you can plan and organise work.
**LOCAL STUDENTS**

Most local students will be studying in a Commonwealth Supported Place which means the Australian Government makes a contribution to the cost of your study while you pay a student contribution. If eligible, you can elect to pay your student contribution upfront and receive a 10% discount. Alternatively, you can defer payment of your student contribution using HECS-HELP visit: [www.goingtouni.gov.au](http://www.goingtouni.gov.au) for more info.

Students are also required to pay a Student Services and Amenities Fee. This fee funds services and amenities at UTS such as social and cultural clubs, services for developing students study skills, UTS Union food, beverage and retail outlets (including a 10% discount for students), the free legal services centre for students, and the second-hand bookstore.

If you're an Australian citizen or on a humanitarian visa, this fee may be deferred through a new government loan scheme called SA-HELP.

For more information see [www.fees.uts.edu.au](http://www.fees.uts.edu.au)

**INTERNATIONAL STUDENTS**

Please note this guide is not intended for international students. For information on fees for international students visit: [www.uts.edu.au/international](http://www.uts.edu.au/international)

**FINANCIAL ASSISTANCE**

The UTS Financial Assistance Service can help students with practical and financial aspects of life at university.

Local UTS students with ongoing and long-term low income can approach our financial assistance service for support with advocacy to Centrelink, information on HECS and FEE-HELP, loans and equity based scholarships and grants, and advice on budgeting.

As a UTS student you may be eligible for an interest free student loan from UTS of up to $500 to assist with bills, rent, one-off living expenses and other costs, such as medical costs.

For information on financial assistance at UTS visit [www.ssu.uts.edu.au/fassist](http://www.ssu.uts.edu.au/fassist)
APPLYING TO UTS

LOCAL STUDENTS
Applications for most UTS undergraduate courses must be lodged online through the Universities Admission Centre (UAC): www.uac.edu.au

Applications open in August and must be received by UAC by the end of September. Late fees apply for applications received after this date.

For high school student applicants, selection is based on your ATAR. You may also increase your chances of getting into UTS with the Year 12 Bonus Scheme and/or access schemes, see below for more info.

For mature-aged students and non-current school leavers, selection is based on academic merit based on previous ATAR or post-school subjects already completed. UTS may also take into account your relevant achievements. You may also increase your chances of getting into UTS via access schemes. See the next page for more info.

INDIGENOUS AUSTRALIANS
If you identify as Australian Aboriginal or Torres Strait Islander, the Jumbunna Indigenous House of Learning will provide specialised assistance to help you gain entry to UTS through the Jumbunna Direct Entry Program or UNISTART.

To apply for entry to UTS through the Jumbunna Direct Entry Program or UNISTART, contact:

Jumbunna Indigenous House of Learning
Tel: 1800 064 312 (free call within Australia)
Tel: +61 2 9514 1902 (for international calls)
Web: www.jumbunna.uts.edu.au
Email: atsirecruitment@uts.edu.au

ENTRY SCHEMES

Year 12 bonus scheme
If you are in high school and perform well in HSC subjects that relate to the degree you want to do, you may be eligible to receive up to a maximum of 5 bonus points. For more info, visit www.undergraduate.uts.edu.au/bonuspints

Guaranteed Entry Scheme
If you achieve the guaranteed ATAR cut-off published in the 2014 UAC guide, which includes any bonus points you may be eligible for, and don’t receive an offer to a higher preference, UTS will be able to guarantee you a place.

International Baccalaureate
If you are currently completing the International Baccalaureate (IB) in Australia, or if you have completed your IB in the past, you can apply to UTS through UAC. How your IB is considered varies depending on the degree you’re applying for. Details for each degree are provided on the specific course pages of the UTS website. If you completed your IB in another country you may also need to demonstrate your English language proficiency.

INTERNATIONAL STUDENTS
Please note this guide is not intended for International students and not all courses are available to international students.

Course information for international students is available in the relevant UTS International Course Guide and online at: www.uts.edu.au/international

Applicants who are not citizens or permanent residents of Australia or citizens of New Zealand must apply as international students directly through UTS International.

UTS International
Tel: 1800 774 816 (free call within Australia)
Tel: +61 3 9627 4816 (for international calls)
Web: www.uts.edu.au/international
Email: international@uts.edu.au
WELCOME TO UTS:SCIENCE

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Educational Access Schemes
UTS Educational Access Schemes take into account a range of educational disadvantages that may have affected your most recent academic performance. The following schemes assist applicants to gain entry to UTS courses:

> UTS Educational Access Scheme awards 10 concessional ATAR points for high school leavers and students with post-secondary qualifications who have experienced educational disadvantage and achieve a minimum ATAR of 69.
> UTS Elite Athletes and Performers Special Admissions Scheme awards 5 concessional points off the ATAR cut-off to applicants who are elite athletes and/or performers (representing school or state in national level competition) and whose sport or performance commitments have impacted on their studies.
> Principal’s Recommendation Scheme aims to support Year 12 students who are eligible for financial hardship under the inpUTS Educational Access Scheme, achieve a minimum ATAR of 69 and who are nominated by their high school principal, by offering them a place at UTS, given that a UTS course is one of their UAC preferences.

For more information about Educational Access Schemes contact:
UTS Equity & Diversity Unit
Email: equity@uts.edu.au
Web: www.equity.uts.edu.au

ENTRY PATHWAYS
If you don’t gain entry to your degree of choice, consider undertaking another form of study and then reapply the following year as a non-current school leaver. At UTS, there are a number of pathways you can take to gain entry to your preferred course:

Complete an INSEARCH Diploma
UTS:INSEARCH is the premium pathway provider to UTS. Diploma programs can provide direct entry into corresponding undergraduate degrees and you could fast track into the 2nd year of a UTS undergraduate degree, depending on the course you choose.
UTS Foundation Studies provides pathways to UTS:INSEARCH diplomas and entry into the first year of an undergraduate degree at UTS (provided you meet the academic admission requirements and if you obtain exceptional results). For more info, visit www.insearch.edu.au

Complete a TAFE Diploma
UTS offers some subject exemptions to students who apply to study at UTS after first completing a course at TAFE. Each exemption is assessed on an individual basis.

Commence study of a course with a lower ATAR requirement, either at UTS or another university, and apply to transfer to your preferred degree after a year. The marks you achieve in your first year of study will count towards your application and you may be eligible to receive credit recognition towards your final degree for some of the subjects you’ve studied.

For more information on all entry pathways in UTS visit www.undergraduate.uts.edu.au/pathways

Complete an Aptitude Assessment
UTS Science believes some future students may have an aptitude for scientific study that is not reflected in their HSC results. The aptitude assessment is an opportunity for students to demonstrate their potential, and possibly secure an offer to study at UTS Science.
For more information, visit aptitude.science.uts.edu.au

Support to current student on UTS:INSEARCH Program
Undergraduate.uts.edu.au
1300 AS

Disclaimer: The information in this brochure is correct as of February 2014. Changes in circumstances after this date may result in a change to the information. UTS reserves the right to alter any details described in this brochure without notice. Readers are responsible for verifying information that pertains to them by contacting the University.

UTS CRICOS PROVIDER CODE: 00099F

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Check out your future campus

A transformed campus, complete with cutting-edge facilities will be opening and ready for you when you start in 2015.

UTS Open Day
30 August 2014
(City campus)
9am – 4pm

Register for these events at: undergraduate.uts.edu.au/events

UTS Info Day
6 January 2015
(City campus)
9am – 4pm

Register for these events at: undergraduate.uts.edu.au/events

UTS Science organises a number of events for future students and the community, find out more at www.science.uts.edu.au/future.