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*Subject to final approval
WHY SCIENCE AT UTS?

UTS Biomedical Science is the only program accredited by the Australian Institute of Medical Scientists (AIMS)* in Sydney

STUDY WITH THE BEST
Learn from academics who are also experts in their fields with a wealth of knowledge and experience in academia and industry. Example, Professor Les Kirkup was awarded the 2014 Australian Institute of Physics medal for his work in undergraduate science education.

GET REAL WORLD EXPERIENCE
You will be experimenting in the labs from day one. Practical elements are not limited to lab practical or fieldwork as you will have the opportunity to network with industry practitioners through guest lectures. Students studying mathematics are exposed extensively to new software applications.

WORLD-CLASS FACILITIES
Benefit from one of the best science facilities in the country where you will be exposed to modern, state-of-the-art facilities. You will have classes in a multi-disciplinary Super Lab where you’ll learn science in a new way.

GAIN A GLOBAL OUTLOOK
Combine your Science or Mathematics courses with the Bachelor of Arts in International Studies and spend a year studying overseas and add a global outlook to your resume. You will be highly sought-after as a UTS graduate.

NETWORK WITH THE BEST
UTS is partnered with more than 150 companies including Agilent Technologies, CSIRO and the Department of Primary Industry.

RESEARCH FOR THE FUTURE
Join a faculty with an impressive research profile – UTS Science contributes about 40 percent of UTS’s total research output. Add an honours year to your course and pursue research that matters (to you and the community).

Note: *AIMS accreditation allows graduates to practice in medical labs in the UK and USA, expanding your career opportunities.

No. 1
UTS RANKED
AUSTRALIA’S #1
YOUNG* UNI

*Times Higher Education 100 Under 50 rankings, 2015
Thomas Street Building, home to UTS Science’s new Super Lab and Crime Scene Simulation Lab
AUSTRALIA’S MOST INNOVATIVE CAMPUS

JOIN THE IDEAS HUB
The arrival of the Dr Chau Chak Wing Building, designed by world-renowned architect Frank Gehry, solidifies UTS’s place in Sydney city’s creative precinct. The building embodies the UTS Business School’s commitment to fostering ideas and collaboration with industry and research.

Experience learning spaces that encourage collaboration and innovation, both in formal and informal learning environments.

A SPACE TO BE CREATIVE
The Faculty of Design, Architecture and Building has undergone a transformation over the past years. With state-of-the-art facilities ready and waiting for you, including the Digital Workshop, Fashion and Textile Studio, Photo media Studio, Motion Capture Lab, and many more.

LEADING EDGE HEALTH AND SCIENCE PRECINCT
UTS Science is expanding with another modern and state-of-the-art building opened in 2015. With the new ‘Super Lab’ we are revolutionising the way science and mathematics are taught at UTS. And you’ll be one of the first to experience it.

STUDY IN A LIVING LAB
With its unique binary code screen design, the newly opened Engineering and IT Building is the single-largest facility to be constructed under UTS’s $1.2 billion City Campus Master Plan. It features a 3D data arena, collaborative theatres and sensors through the building that display real-time data for research purposes.

A PLACE TO FLEX YOUR NEW SKILLS
With cutting-edge simulation technologies across 16 purpose built nursing and midwifery clinical labs, you’ll be learning in the most highly developed laboratories on the East Coast of Australia. Our well-equipped sports and exercise labs will enable you to test and assess physical activity, strength, health and fitness levels.
New multi-disciplinary Super Lab
WORLD-CLASS FACILITIES

**Scientific hub of the future**

UTS invested significantly in its science facilities, making it one of the best in Australia with a multi-disciplinary Super Lab, Crime Scene Simulation Lab, Advanced Labs and many more.

This February, another key piece of our facilities opened its door, adding more purpose-built spaces for collaborative learning and research.

Our facilities encourage students to develop their practical skills and by getting access to modern and state-of-the-art scientific equipment, our students gain essential experience and confidence for their future workplaces.

**TEACHING LABS**

Our teaching laboratories are fitted with scientific and analytical instruments, e-lecterns and computers. They are used solely for practical.

We also have off-campus learning sites in Stroud, near Newcastle which provides access to forests, rivers, bugs and animals for our environmental students.

**MATHS COMPUTING LABS**

Students studying mathematics have access to modern computer labs with current mathematical and statistical software, e-learning support and 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 LABS**

Our research labs have been purposed built to ensure researchers have modern instruments and are close to their labs.

Research is important at UTS Science proven by its contribution of about 40 percent to UTS total research output.

To view UTS Science research facilities, visit [www.uts.edu.au/about/faculty-science/what-we-do/facilities/research-facilities](http://www.uts.edu.au/about/faculty-science/what-we-do/facilities/research-facilities)

**CHINESE MEDICINE CLINIC**

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. UTS is only a handful of English language universities in the world to offer comprehensive professional education and research in traditional Chinese medicine.

**UTS SUPER LAB**

UTS Super Lab is a state-of-the-art laboratory that is 52 metres long with space for over 200 students. It is the only one of its kind in Australia due to its unique functionality which allow us to run twelve different classes concurrently, whether in physics, chemistry or biology. It features stunning learning technologies to support our student-centred approach to learning that fosters interdisciplinary collaboration.
WHICH COURSE IS FOR YOU?

Our science and mathematics courses are practical and relevant. Your study program will include compulsory subjects giving you the building blocks of your scientific knowledge and education.

Here are some commonly asked questions to help you.

“Your studies at UTS Science will give you a good understanding of current scientific knowledge, practice and skills for the changing work environments.”

Professor Bruce Milthorpe, Dean, UTS Science.

Q: WHAT COURSE OR MAJOR CAN I STUDY?

Refer to Table 1 on page 7.

Q: WHAT ARE THE ATARS FOR COURSES?

The ATARS listed in this booklet should only be a guide because ATARS changes each year and will be determined in January of the year you’re starting university.

Q: HOW IS COURSE ATAR BEING CALCULATED?

ATAR is derived based on the number of applications for a course (demand) and the number of places available for that particular course (supply).

Q: IF I DID NOT STUDY ANY SCIENCE OR MATHS 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 course 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 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 and Peer Assisted Study.

Q: WHAT IS AN ELECTIVE?

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

Example, if you are studying the Bachelor of Science in Biomedical Science, you can choose the subject ‘Marketing Foundations’ as one of your elective subject.

Q: HOW MANY HOURS WILL I BE AT UNIVERSITY EACH WEEK?

As a student studying a science course full-time, you are expected to have about 20 hours of contact time each week in your first year, about half of this for a part-time student. You are also required to study and prepare for assessments, making it approximately 40 hours each week inclusive of lab practical and tutorials.

Where else, students studying a mathematics or statistics course full-time will attend approximately 16 hours each week on campus.

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 degree, there is no difference between the two study programs.

Example, Jane is enrolled in the Bachelor of Science in Medical Science and Derek is enrolled in the Bachelor of Medical Science – the specialist course. Both Jane and Derek could have the same study programs depending on their chosen electives. 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 Bachelor of Science in Medical Science and Derek will receive Bachelor of Medical Science.

Q: CAN I COMBINE MY COURSE WITH ANOTHER SPECIALISATION?

In most cases you can combine your science or mathematics degree with another specialisation, making you more employable. For the combined courses listing, see page 42 to 46.

Q: CAN I START MY COURSE IN MID-YEAR?

Yes, you can but not all courses are offered in mid-year. See the list at www.science.uts.edu.au/future

Q: WHAT ARE CREDIT POINTS?

A credit point is the value to each unit of study. Each unit is normally worth six credit points but there are some exceptions to this rule. Credit points reflect a common measure of load in courses. The total number of credit points you have completed assists the UTS to calculate your course completion and satisfactory progress. A standard full-time load usually consists of 48 credit points in one calendar year (or 24 credit points each semester).
## TABLE 1: SCIENCE AND MATHEMATICS COURSES LISTINGS

<table>
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<tr>
<th>UAC CODE</th>
<th>UTS Course Code</th>
<th>Course Name</th>
<th>ATAR 2015</th>
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<tr>
<td></td>
<td></td>
<td><strong>Bachelor of Advanced Science (B AdvSc): Majors offered</strong></td>
<td></td>
</tr>
<tr>
<td>607063</td>
<td>C10347</td>
<td>Bachelor of Advanced Science (Pre-Medicine)</td>
<td>95.00</td>
</tr>
<tr>
<td>607060</td>
<td>C10347</td>
<td>Bachelor of Advanced Science (Infection and Immunity)</td>
<td>93.00</td>
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<tr>
<td>607059</td>
<td>C10347</td>
<td>Bachelor of Advanced Science (Environmental Biotechnology)</td>
<td>95.00</td>
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<tr>
<td>607058</td>
<td>C10347</td>
<td>Bachelor of Advanced Science (Advanced Materials and Data Science)</td>
<td>95.00</td>
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<tr>
<td></td>
<td></td>
<td><strong>Bachelor of Science (BSc): Majors offered</strong></td>
<td></td>
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<td>607001</td>
<td>C10242</td>
<td>Bachelor of Science (Flexible)</td>
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<td>607080</td>
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<td>607003</td>
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<td>Bachelor of Science (Mathematics)</td>
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<td>607003</td>
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<td>Bachelor of Science (Statistics)</td>
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<td>Bachelor of Science (Applied Chemistry)</td>
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<td><strong>Specialist Degrees:</strong></td>
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<tr>
<td>607070</td>
<td>C09078</td>
<td>Bachelor of Biomedical Physics</td>
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<td>607020</td>
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<td>Bachelor of Forensic Science in Applied Chemistry</td>
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<td>607025</td>
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<td>Bachelor of Forensic Biology in Biomedical Science</td>
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<td>C10228</td>
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<td>607040</td>
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<td>607045</td>
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<td>607050</td>
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<td>607055</td>
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<td>609045</td>
<td>C10158</td>
<td>Bachelor of Mathematics and Computing</td>
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<td><strong>Combined Degrees:</strong></td>
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<tr>
<td>609170</td>
<td>C10162</td>
<td>Bachelor of Science, Bachelor of Business</td>
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<td>609175</td>
<td>C10163</td>
<td>Bachelor of Medical Science, Bachelor of Business</td>
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<td>609176</td>
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<td>609225</td>
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<td>Bachelor of Mathematics &amp; Computing, Bachelor of Arts in International Studies</td>
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<td>609250</td>
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<td>609255</td>
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<tr>
<td>609346</td>
<td>C10164</td>
<td>Bachelor of Health Science in Traditional Chinese Medicine, Bachelor of Arts in International Studies</td>
<td>75.90</td>
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</tbody>
</table>

Note: *You have nine majors to choose from within the Bachelor of Science, which is applicable as a single or combined degree.
For more details on course structure and subject descriptions, see pages 8 to 40 or visit www.science.uts.edu.au/future
# Subject to final approval.
**BACHELOR OF ADVANCED SCIENCE OVERVIEW**

**HOW DOES IT WORK?**

The Bachelor of Advanced Science (BAdvSc) combines inquiry learning and research immersion. You will learn theory through real-time application which is a distinctive approach to UTS Science that distinguishes this degree from others.

You will engage in a number of research projects based in your chosen major and work with researchers and learn science “on the job”. You will also be actively mentored in research teams solving real-world issues.

Four majors are offered in this degree which are Advanced Material and Data Science, Environmental Biotechnology, Infection and Immunity and Pre-Medicine.

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**BACHELOR OF ADVANCED SCIENCE IN ADVANCED MATERIALS & DATA SCIENCE**

**COURSE DESCRIPTION**

Modern civilisation depends upon natural and man-made materials such as metals, textiles and materials for electronic components and devices. The next generation of advanced materials will be key to solving many of society’s needs, such as clean energy from solar cells, water purification, materials that support health and security technologies to name a few.

This course gives you essential skills and knowledge such as the properties and development of materials, how to measure and test properties using various experimental techniques, and how to design new materials using computer simulations. You will also learn and network with researchers in advanced materials and new developing areas such as data science.

**CAREER OPTIONS INCLUDE**

Material scientist or researcher, product developer, inventor and many more as this major leads to a variety of careers in either conventional science based within government, defence and commercial laboratories or new innovative careers in financial modeling, management and other non-technical fields where data science skills combine the science of applying and analysing data trends to bring about business improvement.

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

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**KEY INFORMATION**

- **2015 ATAR:** 95.00
- **Duration:** 3 years (full-time) / 6 years (part-time)
- **Location:** City campus
- **UAC Code:** 607058
- **UTS Course Code:** C10347
- **Assumed Knowledge:** Year 12 Mathematics, two units of Science and any two units of English
- **Bonus Points:** Available, see page 49
- **How to Apply:** See page 49

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**COURSE STRUCTURE**

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<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
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<tbody>
<tr>
<td>Foundation of Physics</td>
<td>Surface Processes</td>
<td>Computational Physics</td>
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<tr>
<td>Mathematical Modelling for Science</td>
<td>Mathematics for Physical Science</td>
<td>Energy Science and Technology</td>
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<tr>
<td>Chemistry 1</td>
<td>Advanced Research Project 1</td>
<td>Advanced Research Project 3</td>
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<td>Research Methods 1</td>
<td>Data Science 1</td>
<td>Data Science 2</td>
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<tr>
<td>Physics in Action</td>
<td>Quantum Physics</td>
<td>Solid-state Science and Nanodevices</td>
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<tr>
<td>Statistics and Mathematics for Science</td>
<td>Advanced Research Project 2</td>
<td>Advanced Research Project 4</td>
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<tr>
<td>Optics</td>
<td>Elective x 2</td>
<td>Elective x 2</td>
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<tr>
<td>Research Methods 2</td>
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</tbody>
</table>
Humans are in a constant battle with microbes, both medically and environmentally. This course focuses on the understanding how to manage microbes that impact on the environments upon which we depend including bioremediation, mine waste management, as well as using microbes to solve problems that can lead to commercial products such as biofuels, pharmaceuticals, nutraceuticals or agricultural feed stocks.

The diversity of microbes with novel traits is immense; we need a new ‘ensemble’ of scientist with a specialist background to bio-prospect these habitats and identify which microbes can be used to solve our environmental challenges.

This course focuses on industrial applications of environmental biotechnology. You will develop advanced skills in bio-infomatics, omics, microbial ecology and the fundamental sciences to prepare you for an exciting career in the ever expanding field of biotechnology, having a specific focus on environmental applications and solutions to our changing globe.

CAREER OPTIONS
This course offers a wide range of options including industrial biotechnology for the energy sector such as biofuel, agricultural sector such as feedstock, and environmental management such as phyto-remediation.

For more career options, visit www.science.uts.edu.au/future
BACHELOR OF ADVANCED SCIENCE IN PRE-MEDICINE

KEY INFORMATION

2015 ATAR: 95.00
Duration: 3 years (full-time)
6 years (part-time)
Location: City campus
UAC Code: 607063
UTS COURSE Code: C10347

Assumed Knowledge:
Year 12 Mathematics, two units of Science and any two units of English
Bonus Points: Available, see page 49
How to Apply: See page 49

COURSE DESCRIPTION

The aim of this course is to prepare you for postgraduate medicine and also to equip you with the knowledge and learning for a number of health professions such as dentistry, pharmacy, etc.

It has a stronger focus on coursework to best prepare graduates for future health professional careers in comparison with other majors within the UTS Bachelor of Advanced Science.

You will learn the human anatomy, function and disease processes at the cellular and organ level. You will also be introduced to practices and theory that underlie both medical research and the health professions.

CAREER OPTIONS INCLUDE

You can work in one of the many different health-related professions such as pharmacy, physiotherapy and other primary contact care professions or related professions including health policy, medical, sales and technical support of medical devices, the pharmaceutical and therapeutic goods industry.

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

COURSE STRUCTURE

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
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<tbody>
<tr>
<td>Chemistry 1</td>
<td>Histology</td>
<td>Pharmacology 1</td>
</tr>
<tr>
<td>Cell Biology and Genetics</td>
<td>Physiological Systems</td>
<td>Neuroscience</td>
</tr>
<tr>
<td>General Microbiology</td>
<td>Metabolic Biochemistry</td>
<td>Professional Practice</td>
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<tr>
<td>Research Methods 1</td>
<td>Human Pathophysiology</td>
<td>Pharmacology 2</td>
</tr>
<tr>
<td>Chemistry 2 (Advanced)</td>
<td>Human Anatomy 2</td>
<td>Medical and Applied Physiology</td>
</tr>
<tr>
<td>Physical Aspect of Nature</td>
<td>Introductory Haematology and Immunology</td>
<td>Human Anatomy 3</td>
</tr>
<tr>
<td>Human Anatomy and Physiology</td>
<td>Elective x 2</td>
<td>Elective x 2</td>
</tr>
<tr>
<td>Research Methods 2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
BACHELOR OF ADVANCED SCIENCE IN INFECTION AND IMMUNITY

KEY INFORMATION

2015 ATAR: 93.00
Duration: 3 years (full-time)
6 years (part-time)
Location: City campus
UAC Code: 607060
UTS COURSE Code: C10347

Assumed Knowledge:
Year 12 Mathematics, two units of Science and any two units of English
Bonus Points: Available, see page 49
How to Apply: See page 49

COURSE DESCRIPTION

One of the biggest global threats to human health and the environment is antibiotic resistance, which is the resistance of micro-organisms to drugs that are used to treat serious infections, rendering these drugs ineffective.

This course gives you skills and expertise to enable you to participate in the effort to address this urgent health problem.

You will learn how micro-organisms cause infections, how the host prevents and responds to infection, and understand processes both in the microbe and the host that can be targeted in clinical applications for the diagnosis, treatment and protection against microbial infection.

You will gain advanced experimental, analytical and computational skills in areas such as drug discovery, development of vaccines, drug synthesis, human immunology and antibiotic resistance. You will explore innovative ways of how to tackle the antibiotic resistance problem.

CAREER OPTIONS INCLUDE

This course offers a gateway to multiple career options, including biotechnology, medicine, pharmaceuticals, vaccines, patent law and public health. A research option is also available via the Honours program followed by postgraduate study.

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

COURSE STRUCTURE

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 1</td>
<td>General Microbiology</td>
<td>Advanced Research Project 3</td>
</tr>
<tr>
<td>Physical Aspects of Nature</td>
<td>Pharmacology 1</td>
<td>Advanced Research Project 4</td>
</tr>
<tr>
<td>Cell Biology and Genetics</td>
<td>Advanced Research Project 1</td>
<td>Elective x 2</td>
</tr>
<tr>
<td>Research Methods 1</td>
<td>Drug Discovery</td>
<td>Select two of the following:</td>
</tr>
<tr>
<td>Molecular Biology 1</td>
<td>Introductory Haematology and Immunology</td>
<td>&gt; Advanced Immunology</td>
</tr>
<tr>
<td>Chemistry 2 (Advanced)</td>
<td>Advanced Research Project 2</td>
<td>&gt; Clinical Bacteriology</td>
</tr>
<tr>
<td>Human Anatomy and Physiology</td>
<td>Elective x 2</td>
<td>&gt; Virology</td>
</tr>
<tr>
<td>Research Methods 2</td>
<td></td>
<td>Select two of the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Bacterial Pathogenesis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Parasitology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Proteomics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Microscopy and Cytometry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Pharmacology 2</td>
</tr>
</tbody>
</table>
PROFESSOR LES KIRKUP

Professor Kirkup recently won the 2014 Australian Institute of Physics medal as recognition of his leadership in physics education, particularly in inquiry-oriented learning in laboratories and the analysis and presentation of experimental data which is the outcome of 20 years’ work.

UTS is the first university in Australia to transform its laboratory teaching, changing it from very recipe-like experiments where students follow instructions to experiments, to where students have the responsibility to design and inquire.

This change in philosophy required re-conceptualisation of laboratory skills, rethinking the way students work and how resources are used. It is about choosing and deciding what particular capacity we want to develop in students, and at UTS Science we want our students to develop inquiry skills, communication skills and teamwork. It is about developing life-long capacities and giving students a sense of what it is to be a scientist. Scientist don’t follow recipes, otherwise they’d get to the same conclusions as everyone else.

Courses related to this news: Any science course but specifically applied physics, nanotechnology, biomedical physics and advanced materials.
BACHELOR OF SCIENCE OVERVIEW

HOW DOES IT WORK?

The Bachelor of Science (BSc) is a flexible course 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 14 for more information.

CAN YOU COMBINE THE BACHELOR OF SCIENCE WITH ANOTHER COURSE?

Yes, you can combine the Bachelor of Science, with other specializations such as business, international studies, law and engineering.

See pages 42-46 for combined courses listing and for more career options, visit www.science.uts.edu.au/future

WHAT ARE THE FOUNDATION STREAMS? WHAT MAJORS DO THEY LEAD INTO?

There are 3 foundation streams that lead into 9 majors.

FOUNDATION STREAMS

<table>
<thead>
<tr>
<th>Life and Environmental Sciences</th>
<th>Biotechnology, Biomedical Science, Medical Science, Environmental Sciences</th>
</tr>
</thead>
<tbody>
<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>

YEAR 1

Choose one of the three Foundation Streams (FS)

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

*Flexible Major You can choose a range of 2nd and 3rd year subjects to suit your interests
COURSE DESCRIPTION
This is our most flexible course 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 within the foundation stream or choose not to follow a major and 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 include sub-majors or combine this course with other specialisations from other UTS faculties such as business, international studies, law and engineering. For course listing, see pages 42 to 46.

CAREER OPTIONS INCLUDE
Graduates will have versatile transferable skills that are recognised in almost any industry. However, your career paths will depend largely on your chosen subjects.

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

KEY INFORMATION
2015 ATAR: 74.00
Duration: 3 years [full-time]
6 years [part-time]
Location: City campus
UAC Code: 607001
UTS Course Code: C10242
Assumed Knowledge: Mathematics; any two units of English. At least two units of science relevant to the individual discipline chosen is recommended. Maths Ext 1 is recommended for those majoring in mathematics or statistics.
Bonus Points: Available, see page 49
How to Apply: See page 49

BACHELOR OF SCIENCE
(FLEXIBLE)

COURSE STRUCTURE

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mathematical Sciences Stream</strong></td>
<td><strong>Choose six subjects from</strong></td>
<td><strong>Choose six subjects from</strong></td>
</tr>
<tr>
<td>Introduction to Quantitative Management</td>
<td>Level 2 Subject Choices (Physical Sciences)</td>
<td>Level 3 Subject Choices (Physical Sciences)</td>
</tr>
<tr>
<td>Introduction to Data Analysis</td>
<td>Elective x 2</td>
<td>Elective x 2</td>
</tr>
<tr>
<td>Choose one subject from Foundation Choice A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduction to Sample Surveys</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduction to Mathematical Analysis and Modelling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probability and Random Variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choose one subject from Foundation Choice B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Elective x 2
### COURSE STRUCTURE (CONTINUED)

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chemistry Stream</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry 1</td>
<td>Elective x 2</td>
<td>Elective x 2</td>
</tr>
<tr>
<td>Mathematical Modelling for Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foundations of Physics</td>
<td></td>
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</tr>
<tr>
<td>Chemistry 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistics and Mathematics for Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physics in Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select one from the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; Cell Biology and Genetics</td>
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<td></td>
</tr>
<tr>
<td>&gt; Human Anatomy and Physiology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; Introduction to Materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Physics Stream</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry 1</td>
<td>Elective x 2</td>
<td>Elective x 2</td>
</tr>
<tr>
<td>Foundations of Physics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principles of Scientific Practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistics and Mathematics for Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physics in Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduction to Materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Environmental Stream</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry 1</td>
<td>Elective x 2</td>
<td>Elective x 2</td>
</tr>
<tr>
<td>The Biosphere</td>
<td></td>
<td></td>
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<tr>
<td>Statistical Design and Analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biocomplexity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cell Biology and Genetics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Aspects of Nature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Chemistry</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Life Sciences Stream</strong></td>
<td></td>
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</tr>
<tr>
<td>Chemistry 1</td>
<td>Elective x 2</td>
<td>Elective x 2</td>
</tr>
<tr>
<td>Principles of Scientific Practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistical Design and Analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Aspects of Nature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biocomplexity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Anatomy and Physiology</td>
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</tr>
</tbody>
</table>
COURSE DESCRIPTION
This is an interdisciplinary course that combines and applies mathematics, statistics, operations research, business and computing to derive meaningful patterns in data to gain insights into analytics problems.

You’ll gain strong skills in quantitative analysis and techniques in both business and the social sciences. You’ll learn to integrate skills to maximise insights into analytics and help businesses make informed decisions.

Major studies include mathematical analysis and modelling, data analytics, quantitative analytics, quantitative management, computational methods, probability and random variables, consumer analytics, operations analysis, risk management, financial, database principles and programming, integrating business perspectives.

CAREER OPTIONS
Analytics and big data are changing today’s businesses. They are becoming vital as businesses are using analytics to make informed decisions to enhance organisational effectiveness, customer service, competitiveness, return on investments to achieve their goals.

There is an increasing need for analytics-savvy employees who can think uniquely across disciplines to transform data into relevant insights for making better business decisions.

Graduates of this course can find employment as analysts across a wide range of organisation such as consultancy, market research firms, data mining organisations, financial firms, businesses, logistics and transportation organisations, CRM providers, investment institutions, banks, etc.

According to the McKinsey Global Institute study, it predicted a global gap of nearly 200,000 data scientists by 2018 and over 1.5 million managers with the capability to make decisions using data in the United States alone.
<table>
<thead>
<tr>
<th>COURSE STRUCTURE*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year 1</strong></td>
</tr>
<tr>
<td>&gt; Introduction to Linear Dynamical Systems</td>
</tr>
<tr>
<td>&gt; Introduction to Mathematical Analysis and Modelling</td>
</tr>
<tr>
<td>&gt; Introduction to Quantitative Management</td>
</tr>
<tr>
<td>&gt; Introduction to Data Analysis</td>
</tr>
<tr>
<td>&gt; Probability and Random Variables</td>
</tr>
<tr>
<td>&gt; Linear Algebra</td>
</tr>
<tr>
<td>&gt; Regression Analysis</td>
</tr>
<tr>
<td>&gt; Analytics Capstone</td>
</tr>
<tr>
<td><strong>48 credit points</strong></td>
</tr>
<tr>
<td><strong>Year 2</strong></td>
</tr>
<tr>
<td>&gt; Programming for Informatics</td>
</tr>
<tr>
<td>&gt; Introduction to Data Analytics</td>
</tr>
<tr>
<td>&gt; Database Fundamentals</td>
</tr>
<tr>
<td>&gt; Select one of the following:</td>
</tr>
<tr>
<td>&gt; Advanced Data Analytics</td>
</tr>
<tr>
<td>&gt; Database Programming</td>
</tr>
<tr>
<td>&gt; Object-relational Databases</td>
</tr>
<tr>
<td>&gt; Select one Major to follow, and complete 12 credit points or 2 subjects relevant to the chosen major.</td>
</tr>
<tr>
<td>&gt; Consumer Analytics Major</td>
</tr>
<tr>
<td>&gt; Financial Mathematics Major</td>
</tr>
<tr>
<td>&gt; Operations Analysis Major</td>
</tr>
<tr>
<td>&gt; Risk Management Major</td>
</tr>
<tr>
<td>&gt; Electives x 2</td>
</tr>
<tr>
<td><strong>48 credit points</strong></td>
</tr>
<tr>
<td><strong>Year 3</strong></td>
</tr>
<tr>
<td>&gt; Complete 24 credit points or 6 subjects relevant to the chosen major.</td>
</tr>
<tr>
<td>&gt; Electives x 2</td>
</tr>
<tr>
<td><strong>48 credit points</strong></td>
</tr>
</tbody>
</table>

*Note: Course structure and subjects are subject to final approval by UTS.

Note: Full-time students typically undertake 24 credit points a semester, and there are two semesters in a calendar year. Credit point is the value to each unit of study. Each unit is normally worth six credit points but there are some exceptions to this rule. Credit points reflect a common measure of load in courses.
BACHELOR OF SCIENCE (MATHEMATICS)

KEY INFORMATION
2015 ATAR: 75.50
Duration: 3 years (full-time)
           6 years (part-time)
Location: City campus
UAC Code: 607003
UTS COURSE Code: C10242
Recommended Year 12 Subjects:
                          Maths Extension 1, Maths, 2 units of English
Bonus Points: Available, see page 49
How to Apply: See page 49

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 course 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

COURSE STRUCTURE

<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>Advanced Calculus</td>
</tr>
<tr>
<td>Introduction to Linear Dynamical Systems</td>
<td>Optimisation in Quantitative Management</td>
<td>Select two of the following:</td>
</tr>
<tr>
<td>Introduction to Data Analysis</td>
<td>Stochastic Models</td>
<td>&gt; Quantitative Management Practice</td>
</tr>
<tr>
<td>Introduction to Sample Surveys</td>
<td>Differential Equations</td>
<td>&gt; Mathematical Statistics</td>
</tr>
<tr>
<td>Introduction to Mathematical Analysis and Modelling</td>
<td>Regression Analysis</td>
<td>&gt; Design and Analysis of Experiments</td>
</tr>
<tr>
<td>Principles of Scientific Practice</td>
<td></td>
<td>&gt; Programming for Mathematical Modelling and Data Analysis</td>
</tr>
<tr>
<td>Probability and Random Variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select one subject from Foundation Choice B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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)
Elective x 2

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)
Elective x 2
BACHELOR OF SCIENCE (STATISTICS)

KEY INFORMATION
2015 ATAR: 75.50
Duration: 3 years (full-time) 6 years (part-time)
Location: City campus
UAC Code: 607003
UTS COURSE Code: C10242

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

Bonus Points: Available, see page 49
How to Apply: See page 49

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.

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

COURSE STRUCTURE

<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 Data Analysis</td>
<td>Stochastic Models</td>
<td>Advanced Calculus</td>
</tr>
<tr>
<td>Introduction to Sample Surveys</td>
<td>Differential Equations</td>
<td>Select one of the following:</td>
</tr>
<tr>
<td>Introduction to Mathematical Analysis</td>
<td>Regression Analysis</td>
<td>&gt; Quality Control</td>
</tr>
<tr>
<td>and Modelling</td>
<td></td>
<td>&gt; Stochastic Processes</td>
</tr>
<tr>
<td>Select one subject from Foundation Choice B</td>
<td></td>
<td>&gt; Seminar [Statistics]</td>
</tr>
<tr>
<td>Principles of Scientific Practice</td>
<td></td>
<td>&gt; Quality Control</td>
</tr>
<tr>
<td>Probability and Random Variables</td>
<td></td>
<td>Elective x 2</td>
</tr>
</tbody>
</table>

Select one of the following:
- Quality Control
- Seminar [Statistics]

Select two of the following:
- Advanced Analysis
- Nonlinear Methods in Quantitative
- Management
- Network and Combinatorial Optimisation
- Elective x 2
# BACHELOR OF MATHEMATICS AND COMPUTING

## KEY INFORMATION

**2015 ATAR:** 71.25  
**Duration:** 3 years (full-time)  
6 years (part-time)  
**Location:** City campus  
**UAC Code:** 609045  
**UTS COURSE Code:** C10158  

**Recommended Year 12 Subjects:** Maths Extension 1, Maths, 2 units of English  
**Bonus Points:** Available, see page 49  
**How to Apply:** See page 49  
**Professional recognition and accreditation:** Australian Computer Society

## 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

## COURSE STRUCTURE – based on commencement in Autumn

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DATA ANALYTICS MAJOR</strong></td>
<td><strong>Analytics Capstone Project</strong></td>
<td><strong>Select two from the following:</strong></td>
</tr>
<tr>
<td>Communication for IT Professionals</td>
<td>Computational Linear Algebra</td>
<td>&gt; Design and Analysis of Experiments</td>
</tr>
<tr>
<td>Introduction to Information Systems</td>
<td>Introduction to Quantitative Management</td>
<td>&gt; Stochastic Models</td>
</tr>
<tr>
<td>Introduction to Linear Dynamical Systems</td>
<td>Introduction to Data Analytics</td>
<td>&gt; Multivariate Statistics</td>
</tr>
<tr>
<td>Introduction to Data Analysis</td>
<td>Mathematical Statistics</td>
<td><strong>Select one from the following:</strong></td>
</tr>
<tr>
<td>Regression Analysis</td>
<td>Database Fundamentals</td>
<td>&gt; Database Programming</td>
</tr>
<tr>
<td>Programming Fundamentals</td>
<td>Business Requirements Modelling</td>
<td>&gt; Engineering Computations</td>
</tr>
<tr>
<td>Web Systems</td>
<td>Probability and Random Variables</td>
<td>&gt; Project Management and the Professional</td>
</tr>
<tr>
<td>Introduction to Mathematical Analysis and Modelling</td>
<td><strong>Select one from the following:</strong></td>
<td>&gt; Programming for Mathematical Modelling and Data Analysis</td>
</tr>
<tr>
<td></td>
<td>&gt; Networking Essentials</td>
<td><strong>Select one from the following:</strong></td>
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<td>&gt; Strategic e-Business Technologies</td>
<td>&gt; Advanced Data Analytics</td>
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<td>&gt; Programming with Patterns</td>
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For more information, visit www.science.uts.edu.au/future
### COURSE STRUCTURE – based on commencement in Autumn

<table>
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<tr>
<th>Year 1</th>
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<tbody>
<tr>
<td><strong>COMPUTATIONAL MATHEMATICS MAJOR</strong></td>
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<tr>
<td>Communication for IT Professionals</td>
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<tr>
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<td>&gt; Mathematical Statistics</td>
<td>&gt; Advanced Calculus</td>
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<td>Web Systems</td>
<td>&gt; Stochastic Models</td>
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<td>&gt; Database Fundamentals</td>
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<td>&gt; Probability and Random Variables</td>
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<td>&gt; Applications Programming</td>
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<td></td>
<td>&gt; Strategic e-Business Technologies</td>
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</table>

*Select one from the following:*

- Mathematical Statistics
- Stochastic Models
- Advanced Calculus
- Database Fundamentals
- Probability and Random Variables
- Applications Programming
- Networking Essentials
- Strategic e-Business Technologies

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<table>
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<tr>
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<tbody>
<tr>
<td><strong>BUSINESS MODELLING MAJOR</strong></td>
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<td>Computational Linear Algebra</td>
<td>Quantitative Management Practice</td>
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<td>Optimisation in Quantitative Management</td>
<td>Project Management and the Professional</td>
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<td>&gt; Innovations for Global Relationship Management</td>
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<tr>
<td></td>
<td>&gt; Networked Enterprise Architecture</td>
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</table>

*Select one from the following:*

- Differential Equations
- Mathematical Methods
- Stochastic Processes
- Seminar (Mathematics)

*Select one from the following:*

- Intelligent Agents
- Software Engineering Practice
- Engineering Computations

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*Select one from the following:*

- Business Process and IT Strategy
- Collaborative Business Processes
- Finance and IT
- Information System Development Methodologies
- Strategic IT Project

*Select one from the following:*

- Introduction to Sample Surveys
- Nonlinear Methods in Quantitative Management
- Network and Combinatorial Optimisation
- Quality Control
- Seminar (Statistics)

*Select one from the following:*

- Collaborative Business Processes
- Innovations for Global Relationship Management
- Networked Enterprise Architecture
- Systems Testing and Quality Management
BACHELOR OF SCIENCE (APPLIED PHYSICS)

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 analytist 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

KEY INFORMATION

2015 ATAR: 71.20
Duration: 3 years [full-time]
6 years [part-time]
Location: City campus
UAC Code: 607009
UTS COURSE Code: C10242

Recommended Year 12 Subjects: Maths Extension 1, Physics, Chemistry, Maths, 2 units of English, 2 units of Science
Bonus Points: Available, see page 49
How to Apply: See page 49
Professional recognition and accreditation: Australian Institute of Physics (AIP)

COURSE STRUCTURE

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
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<tr>
<td>Mathematical Modelling for Science</td>
<td>Nanomaterials</td>
<td>Applied Electronics and Interfacing</td>
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<td>Chemistry 1</td>
<td>Energy Science and Technology</td>
<td>Solid-state Science and Nanodevices</td>
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<td>Mathematics for Physical Science</td>
<td>Computational Physics</td>
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<tr>
<td>Chemistry 2</td>
<td>Advanced Mechanics</td>
<td>Optics and Nanophotonics</td>
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<tr>
<td>Statistics and Mathematics for Science</td>
<td>Quantum Physics</td>
<td>Scanning Probe and Electron Microscopy</td>
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<tr>
<td>Introduction to Materials</td>
<td>Imaging Science</td>
<td>Measurement and Analysis of Physical Processes</td>
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<td>Physics in Action</td>
<td>Elective x 2</td>
<td>Elective x 2</td>
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<td>Principals of Scientific Practice</td>
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</table>
BACHELOR OF SCIENCE (NANOTECHNOLOGY)

KEY INFORMATION

2015 ATAR: 71.50
Duration: 3 years [full-time]
6 years [part-time]
Location: City campus
UAC Code: 607007
UTS COURSE Code: C10242

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

Bonus Points: Available, see page 49
How to Apply: See page 49
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 delivery researcher, nanolithography, platform project officer.

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

COURSE STRUCTURE

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<th>Year 1</th>
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<tbody>
<tr>
<td>Mathematical Modelling for Science</td>
<td>Mathematics for Physical Science</td>
<td>Applied Electronics and Interfacing</td>
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<tr>
<td>Chemistry 1</td>
<td>Physical Chemistry 1</td>
<td>Molecular Nanotechnology</td>
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<tr>
<td>Foundations of Physics</td>
<td>Nanomaterials</td>
<td>Solid-state Science and Nanodevices</td>
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<td>Chemistry 2</td>
<td>BioNanotechnology</td>
<td>Surface Processes</td>
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<tr>
<td>Statistics and Mathematics for Science</td>
<td>Quantum Physics</td>
<td>Optics and Nanophotonics</td>
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<td>Introduction to Materials</td>
<td>Imaging Science</td>
<td>Scanning Probe and Electron Microscopy</td>
</tr>
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<td>Physics in Action</td>
<td>Elective x 2</td>
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<tr>
<td>Principles of Scientific Practice</td>
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</table>
**BACHELOR OF BIOMEDICAL PHYSICS**

**COURSE DESCRIPTION**
Some of the most rewarding yet challenging applications of physics are in the area of biomedical physics. There are a broad range of applications including radiation oncology, medical imaging and radiation safety to name a few.

Knowledge of biomedical physics can be applied to instrument development from MRIs (Magnetic Resonance Imaging) to simple glucose monitors or therapeutic agents based on nanoparticles.

This course gives you skills and expertise that will equip you to participate in this exciting and rapidly growing area of activity found at the interface between physics and biomedicine.

You will gain advanced experimental, analytical and computational skills as well as an understanding of how the body works at a cellular and organ level.

**CAREER OPTIONS INCLUDE**
This course offers a gateway to multiple career options, including imaging technology and the medical instrumentation industry. It will also provide a pathway to postgraduate studies in medical physics and medicine.

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

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**KEY INFORMATION**

- **2015 ATAR:** 90.00
- **Duration:** 3 years (full-time)
  6 years (part-time)
- **Location:** City campus
- **UAC Code:** 607070
- **UTS COURSE Code:** C10346

**Recommended Year 12 Subjects:**
Year 12 Mathematics, two units of Science and any two units of English

**Bonus Points:** Available, see page 49

**How to Apply:** See page 49

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**COURSE STRUCTURE**

<table>
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<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
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<tr>
<td>Principles of Scientific Practice</td>
<td>Mathematics for Physical Science</td>
<td>Solid State Science and Nanodevices</td>
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<tr>
<td>Mathematical Modeling for Science</td>
<td>Applied Electronics and Interfacing</td>
<td>Medical Imaging Technology</td>
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<td>Biomedical Physics Methodology</td>
<td>Biomedical Physics Project</td>
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<td>Human Pathophysiology</td>
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BACHELOR OF MEDICINAL CHEMISTRY

KEY INFORMATION

2015 ATAR: 85.00
Duration: 3 years (full-time)
6 years (part-time)
Location: City campus
UAC Code: 607065
UTS COURSE Code: C10275

Assumed Knowledge:
Year 12 Mathematics, two units of Science and any two units of English
Bonus Points: Available, see page 49
How to Apply: See page 49
Professional recognition and accreditation: Royal Australian Chemical Institute

COURSE DESCRIPTION

The aim of this course is to equip you with skills to undertake the design, discovery and development of new drugs. The course is a research inspired, trans-disciplinary degree located at the intersection of chemistry, biology and pharmacology.

You will develop a solid foundation in chemistry, maths and biology which will underpin your studies, and as you progress through your degree, you will explore pharmacology and drug synthesis strategies.

You will gain necessary skills to prepare you for a career as a medicinal chemist with access to sophisticated instrumentation.

CAREER OPTIONS INCLUDE

You will be at the forefront of drug discovery from concept to delivery. Your highly developed practical skills will differentiate you from other graduates, allowing you to work in areas of drug discovery and development including the creation of new synthetic drug compounds.

You can choose to work in a range of industries such as pharmaceutical science and biotechnology where you will have the opportunity to interact with multi-disciplinary teams involving pharmacologists, toxicologists, analytical chemists, microbiologists, and biopharmacists.

The majority of jobs are with pharmaceutical companies, biotechnology start-ups, clinical trials management or government regulatory authorities.

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

COURSE STRUCTURE

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<th>Year 1</th>
<th>Year 2</th>
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</table>
STEPHEN KEARSEY  
Bachelor of Science in Applied Chemistry

What motivated you to study this degree?  
I love science, I love learning about it and practising it in the lab. I love to think for myself, and work things out rather than just remember sets of rules, and that’s why I decided to do chemistry, it’s so logical.

What do you enjoy most about your degree?  
Definitely the practicals, going into the lab every week and applying what we learn in lectures to real life. It also forces you to draw your own conclusions, not just follow along.

Why did you choose to study at UTS?  
Everything I read and heard about UTS suited me, and I particularly love the practical approach to learning. My major is “Applied Chemistry” not just chemistry, and that already says this course is very hands on. UTS has excellent facilities and has a reputation for delivering a very hands on approach to learning, and that’s why I chose UTS.

What is it like to study at UTS Science?  
There are a lot of hours on campus, which I really liked. I know I will learn more in a one hour lab session than two hours at home. There is plenty of support with science too, from organised peer assisted study sessions, to maths and chemistry learning centres, no matter where you look there is support to help you with your studies.
BACHELOR OF SCIENCE (APPLIED CHEMISTRY)

KEY INFORMATION

2015 ATAR: 71.65
Duration: 3 years (full-time)
6 years (part-time)
Location: City campus
UAC Code: 607005
UTS COURSE Code: C10242

Recommended Year 12 Subjects:
Maths Extension 1, Physics, Chemistry, Maths, 2 units of English, 2 units of Science
BONUS POINTS: Available, see page 49
How to Apply: See page 49
Professional recognition and accreditation: Royal Australian Chemical Institute (RACI)

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

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<td>Spectroscopy and Structure</td>
<td>Surface Processes</td>
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STEPHANIE TAN
Bachelor of Forensic Science in Applied Chemistry

What motivated you to study this degree?
I studied chemistry in year 12 and was really keen to pursue either forensics or chemistry, and UTS offered both – in one degree, which was a big plus.

What do you enjoy most about your degree?
Learning about the different interesting things that the degree offers and covers and what should be expected or encountered when pursuing this career path.

Why did you choose to study at UTS?
UTS offered the combination of chemistry and forensic science, which I was looking for in a degree.

What is it like to study at UTS Science?
With most science degrees, a lot of time is needed to be put in to complete a science degree but doing so enables us to learn a lot theoretically and practically. Lecturers are also approachable and accessible.
BACHELOR OF FORENSIC SCIENCE IN APPLIED CHEMISTRY

KEY INFORMATION
2015 ATAR: 78.10  
Duration: 3 years (full-time)  6 years (part-time)  
Location: City campus  
UAC Code: 607020  
UTS COURSE Code: C10244  
Recommended Year 12 Subjects: Maths Extension 1, Chemistry, Physics, Maths, 2 units of English, 2 units of Science  
Bonus Points: Available, see page 49  
How to Apply: See page 49  
Professional recognition and accreditation: Australian and New Zealand Forensic Science Society (ANZFSS), Royal Australian Chemical Institute (RACI)

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.

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

COURSE STRUCTURE

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<td>Analytical Chemistry 2</td>
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<td>Analytical Chemistry 3</td>
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<td>&gt; Physics in Action</td>
<td>&gt; Inorganic Chemistry 2</td>
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<td>&gt; Human Anatomy and Physiology</td>
<td>&gt; Polymer Science</td>
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</table>
Dr Simon Walsh was awarded the 2014 UTS Chancellor’s Award for Excellence and also the UTS Alumni Award for Excellence (Faculty of Science) in recognition of his work and contribution to society.

Dr Walsh is a passionate longstanding contributor to forensic science research and education. He is a UTS graduate obtaining his Doctor of Philosophy in Forensic Science in 2009. He also developed Australia’s first bachelor degree in forensic biology at UTS and was awarded the NSW Young Tall Poppy Award in 2005.

Now as the Chief Scientist, Forensics for the Australian Federal Police (AFP), Dr Walsh is widely regarded as one of the nation’s foremost forensic authorities and has led reforms and initiatives that significantly expand capabilities in the field. In his capacity as the National Disaster Victim Identification (DVI) Commander with the AFP, his leadership and expertise have been crucial to the success of numerous high-profile DVI operations, amongst them the Victorian bushfires in 2009, the Christmas Island refugee boat tragedies in 2010 and 2012, and the Christchurch earthquake in New Zealand in 2011, which brought comfort to countless grieving families, allowing them to begin the process of laying their loved ones to rest.

The horror of the Malaysian Airlines Flight MH17 tragedy in July 2014 triggered his next deployment. Leading a team of Australian specialists to the war-ravaged field in the Ukraine, Dr Walsh began the grizzly process of recovering and identifying the victims’ remains under Operation Bring Them Home.

Courses related to this news: Forensic science, forensic biology.
BACHELOR OF FORENSIC BIOLOGY IN BIOMEDICAL SCIENCE

KEY INFORMATION

2015 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 49  
How to Apply: See page 49  
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

<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>Principles of Scientific Practice</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>Principles of Forensic Science</td>
<td>Anatomical Pathology</td>
<td>&gt; Molecular Biology 2</td>
</tr>
<tr>
<td>Select one of the following:</td>
<td></td>
<td>&gt; Clinical Bacteriology</td>
</tr>
<tr>
<td>&gt; Physical Aspects of Nature</td>
<td></td>
<td>&gt; Medical and Diagnostic Biochemistry</td>
</tr>
<tr>
<td>&gt; Biocomplexity</td>
<td></td>
<td>&gt; Advanced Haematology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Advanced Immunology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Select two of the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Transfusion Science</td>
</tr>
<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>
**COURSE DESCRIPTION**

You’ll learn in-depth how the body works at the cellular level, what causes disease and the techniques of laboratory diagnosis of disease, including the expanding area of molecular-based diagnostic techniques. You’ll obtain knowledge and lab skills required to participate in research aimed at the prevention or treatment of disease.

This course is the only AIMS accredited degree in Sydney. It provides strong professional and industry focus with extensive theoretical knowledge and advanced laboratory skills. You’ll gain a solid background in the biological and medical sciences practical experimentation.

It is also an excellent preparation for entry into postgraduate degrees, such as medicine, dentistry and pharmacy.

**CAREER OPTIONS INCLUDE**

Medical lab manager, cytologist, biochemist, microbiologist, research associate, cancer researcher, genetic therapist, embryologist, infectious disease researcher, diagnostic technician, biologist, oceanographer, geneticist, pathologist, medical practitioner

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

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**BACHELOR OF SCIENCE**

**BACHELOR OF BIOMEDICAL SCIENCE**

---

**KEY INFORMATION**

Bachelor of Science (Biomedical Science)
2015 ATAR: 77.45
UAC Code: 607015
UTS COURSE Code: C10242

Bachelor of Biomedical Science (specialist course)
2015 ATAR: 83.75
UAC Code: 607040
UTS COURSE Code: C10115

Duration: 3 years (full-time)
6 years (part-time)
Location: City campus

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

Bonus Points: Available, see page 49

How to Apply: See page 49

Professional recognition and accreditation: Australian Institute of Medical Scientists (AIMS)

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**COURSE STRUCTURE**

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
</table>
| Chemistry 1  
Principles of Scientific Practice  
Cell Biology and Genetics  
Statistical Design and Analysis  
Chemistry 2  
Biocomplexity  
Human Anatomy and Physiology  
Physical Aspects of Nature | General Microbiology  
Metabolic Biochemistry  
Histology  
Molecular Biology 1  
Select two of the following:  
> Analytical Biochemistry  
> Epidemiology and Public Health Microbiology  
> Introductory Haematology and Immunology  
Electives x 2 | Anatomical Pathology  
Select three of the following:  
> Molecular Biology 2  
> Clinical Bacteriology  
> Medical and Diagnostic Biochemistry  
> Advanced Haematology  
> Advanced Immunology  
Select two of the following:  
> Transfusion Science  
> Biochemistry, Genes and Disease  
> Parasitology  
Electives x 2 |
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

KEY INFORMATION
Bachelor of Science (Biotechnology)
2015 ATAR: 77.45
UAC Code: 607015
UTS COURSE Code: C10242

Bachelor of Biotechnology (specialist course)
2015 ATAR: 75.00
UAC Code: 607045
UTS COURSE Code: C10172

Duration: 3 years (full-time)
6 years (part-time)
Location: City campus

Recommended Year 12 Subjects:
Maths Extension 1, Chemistry, Maths, 2 units of English, 2 units of Science
Bonus Points: Available, see page 49
How to Apply: See page 49
Professional recognition and accreditation: Australian Biotechnology Association

COURSE STRUCTURE

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 1</td>
<td>General Microbiology</td>
<td>Molecular Biology 2</td>
</tr>
<tr>
<td>Principles of Scientific Practice</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><strong>Select two of the following:</strong></td>
<td>Microbial Ecology</td>
</tr>
<tr>
<td>Biocomplexity</td>
<td>&gt; Analytical Biochemistry</td>
<td></td>
</tr>
<tr>
<td>Human Anatomy and Physiology</td>
<td>&gt; Epidemiology and Public Health Microbiology</td>
<td></td>
</tr>
<tr>
<td>Physical Aspects of Nature</td>
<td>&gt; Introductory Haematology and Immunology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electives x 2</td>
<td>Electives x 2</td>
</tr>
</tbody>
</table>
BENJAMIN GAD
Bachelor of Medical Science, Bachelor of Business (Accounting)

What motivated you to study this degree?
I studied predominately science subjects in high school but always wanted to apply the problem solving skills I attained in studying these subjects to a discipline outside of science. The double or combined degree enabled me to harness my critical thinking skills and apply these attributes to problems in business.

What do you enjoy most about your degree?
The combined degree in Business and Medical Science provides a great deal of variety. Rarely did I spend a whole day attending solely business or science classes.

Why did you choose to study at UTS?
In year 12 my chemistry class visited UTS Science and I was impressed with its facilities and teaching philosophy, which prioritises analytical thinking and attaining skills, and not just developing a bank of knowledge.
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

KEY INFORMATION
Bachelor of Science (Medical Science)
2015 ATAR: 77.45
UAC Code: 607015
UTS COURSE Code: C10242

Bachelor of Medical Science (specialist course)
2015 ATAR: 88.00
UAC Code: 607050
UTS COURSE Code: C10184

Duration: 3 years (full-time)
6 years (part-time)
Location: City campus

Recommended Year 12 Subjects:
Maths Extension 1, Chemistry, Maths, 2 units of English, 2 units of Science
Bonus Points: Available, see page 49
How to Apply: See page 49

COURSE STRUCTURE

<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>Pharmacology 1</td>
</tr>
<tr>
<td>Principles of Scientific Practice</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>Medical Devices and Diagnostics</td>
</tr>
<tr>
<td>Human Anatomy and Physiology</td>
<td>&gt; Analytical Biochemistry</td>
<td>Pharmacology 2</td>
</tr>
<tr>
<td>Physical Aspects of Nature</td>
<td>&gt; Epidemiology and Public Health</td>
<td>Medical and Applied Physiology</td>
</tr>
<tr>
<td></td>
<td>Microbiology</td>
<td>Elective x 1</td>
</tr>
<tr>
<td></td>
<td>&gt; Introductory Haematology and Immunology</td>
<td></td>
</tr>
</tbody>
</table>
HERBERT HUISKAMP
Bachelor of Health Science in Traditional 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?
When I was researching for an undergraduate Chinese medicine course, only two universities in New South Wales offered them and UTS Science not only had the better reputation but the course structure was much simpler and appeared more balance between acupuncture and herbal medicine. UTS’s campus is also very conveniently located, close to bus and train stations.

What is it like to study at UTS Science?
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.
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

KEY INFORMATION
2015 ATAR: 75.90
Duration: 4 years (full-time)
8 years (part-time)
Location: City campus
UTS COURSE Code: C10186

Recommended Year 12 Subjects:
Biology, 2 units of English, 2 units of Science
Bonus Points: Available, see page 49
How to Apply: See page 49
Professional recognition: Accredited by the Chinese Medicine Board of Australia. Graduates are eligible for professional membership

COURSE STRUCTURE

Year 1
Chinese Medicine Foundations 1
Point Location and Acupuncture
Anatomy
Clinical Theory and Clinic Level 1
Communication for the Complementary Therapist
Introduction to Chinese Herbal Medicine
Chinese Medicine Foundations 2
Clinic Level 2 and Acupuncture Techniques 1
Health and Homeostasis

Year 2
Chinese Diagnostic System 1
Clinic Level 3 and Acupuncture Techniques 2
Pharmacology of Chinese Herbal Medicine
Pathophysiology and Pharmacology 1
Chinese Diagnostic System 2
Clinic Level 4 and Acupuncture Techniques 3
Chinese Herbal Formula 1
Pathophysiology and Pharmacology 2

Year 3
Clinical Features of Disease
Clinic Level 5 and Acupuncture Microsystems
Chinese Herbal Formula 2
Pathophysiology and Pharmacology 3
Medical Classics and the History of Chinese Medicine
Clinical Practicum (Therapy and Diagnosis)
Clinic Level 6
Disease States for Traditional Chinese Medicine 1

Year 4
Evaluating TCM: Theory, Practice and Research 1
Clinical Practice 1 (TCM)
Disease States for Traditional Chinese Medicine 2
Professional Issues in Traditional Chinese Medicine
Clinical Practice 2 (TCM)
Evaluating TCM: Theory, Practice and Research 2
REBECCA PAGNUCCO
Bachelor of Science in Environmental Biology, Bachelor of Arts in International Studies (Switzerland)

Why did you choose to study at UTS Science?
When looking for a science degree, science at UTS stood out in that the degree is organised so that you gain a broad knowledge across several disciplines in your first year, before going into more specialised streams in second and third year. Having always been more inclined towards biology over any other science, this broader first year was ideal in comparison to other science degrees which were quite heavily based on physics, chemistry and mathematics particularly in the first year.

It also stood out in that I was able to combine my degree with International Studies and gain two qualifications within five years. As part of the international studies component, I will be travelling to Switzerland for a year.

What is it like to study at UTS Science?
I remember first coming to UTS and being amazed at how 'new' everything looked which is quite the contrary experience I had with other unis. It certainly makes for a great environment to work in particularly when you have a larger amount of contact hours than students in other degrees.

What other activities did you take part at uni?
I participated in the Beyond UTS International Leadership Development Program (BUiLD) and heard from a number of internationally renowned speakers and participate in a range of leadership and networking activities. BUiLD also supported me through a travel grant so I could participate in the International Science Summer School at Cambridge University.

Getting involved in these activities has allowed me to be one of the 100 students chosen for the UTS Accomplish Program.
BACHELOR OF SCIENCE (ENVIRONMENTAL SCIENCES)

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 for 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

KEY INFORMATION
2015 ATAR: 70.70
Duration: 3 years (full-time)
3 years (part-time)
Location: City campus
UAC Code: 607011
UTS COURSE Code: C10242
Recommended Year 12 Subjects:
Maths Extension 1, Chemistry, Maths, 2 units of English, 2 units of Science
Bonus Points: Available, see page 49
How to Apply: See page 49

COURSE DESCRIPTION
Year 1
Principles of Scientific Practice
Chemistry 1
The Biosphere
Statistical Design and Analysis
Cell Biology and Genetics
Physical Aspects of Nature
Biocomplexity
Environmental Chemistry

Year 2
Ecology
Experimental Design and Sampling
Geological Processes
Select three of the following:
> Animal Behaviour and Physiology
> Environmental Forensics
> Marine Communities
> Plant Physiology and Ecophysiology
> Microbial Ecology

Year 3
Select three from the following:
> Aquatic Ecology
> Biodiversity Conservation
> Fisheries Resources
> GIS and Remote Sensing
> Marine Geosciences
> Wildlife Ecology
Select three from the following:
> Environmental Protection and Management
> Stream and Lake Assessment
> Coral Reef Ecosystems
> Marine Productivity and Climate Change
> Semi-arid Ecology
Elective x 2
Elective x 2
Elective x 2
BACHELOR OF ENVIRONMENTAL BIOLOGY

KEY INFORMATION

2015 ATAR: 71.00
Duration: 3 years (full-time)
6 years (part-time)
Location: City campus
UAC Code: 607003
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 49
How to Apply: See page 49

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

FBiologist, 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

<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>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 Conservation</td>
</tr>
<tr>
<td>Principles of Scientific Practice</td>
<td>Plant Physiology and Ecophysiology</td>
<td>Stream and Lake Assessment</td>
</tr>
<tr>
<td>Biocomplexity</td>
<td>Electives x 3</td>
<td>Environmental Protection and Management</td>
</tr>
<tr>
<td>Environmental Chemistry</td>
<td></td>
<td>Elective x 1</td>
</tr>
<tr>
<td>Physical Aspects of Nature</td>
<td></td>
<td>Select one of the following:</td>
</tr>
<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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<tr>
<td></td>
<td></td>
<td>&gt; Alpine and Lowland Ecology</td>
</tr>
</tbody>
</table>
BACHELOR OF MARINE BIOLOGY

KEY INFORMATION

2015 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 49
How to Apply: See page 49
Professional recognition and accreditation: Australian Marine Science Association

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.

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

COURSE STRUCTURE

<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>Coral Reef Ecosystems</td>
</tr>
<tr>
<td>Statistical Design and Analysis</td>
<td>Animal Behaviour and Physiology</td>
<td>Environmental Protection and Management</td>
</tr>
<tr>
<td>Principles of Scientific Practice</td>
<td>Plant Physiology and Ecophysiology</td>
<td>Marine Productivity and Climate Change</td>
</tr>
<tr>
<td>Biocomplexity</td>
<td>Marine Communities</td>
<td>Electives x 2</td>
</tr>
<tr>
<td>Environmental Chemistry</td>
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<tr>
<td>Physical Aspects of Nature</td>
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</tbody>
</table>
You will develop a combination of practical scientific and professional business skills. You will be prepared for scientific practice and business and management in technical, financial, regulatory, environmental, health or biomedical oriented businesses, industries or government departments. Demand is growing for graduates able to cross the divide between science and business.

**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.

**BACHELOR OF BUSINESS MAJORS**
- Accounting
- Economics
- Finance
- Human Resource Management

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

- Biotechnology
- Biomedical Science
- Medical Science
- Environmental Sciences

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**Majors Available**
For more details on specific science majors, please refer to the relevant single major/degree on pages 13 to 38

**KEY INFORMATION**

- **Bachelor of Science, Bachelor of Business**
  - 2015 ATAR: 85.75
  - UAC Code: 609170
  - UTS COURSE Code: C10162

- **Bachelor of Medical Science, Bachelor of Business**
  - 2015 ATAR: 93.15
  - UAC Code: 609175
  - UTS COURSE Code: C10163

- **Bachelor of Biotechnology, Bachelor of Business**
  - 2015 ATAR: 89.15
  - UAC Code: 609176
  - UTS COURSE Code: C10169

- Duration: 4 years (full-time)
- Bonus Points: Available, see page 49
- How to Apply: See page 49

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**Combing Science with Business**

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.

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.
<table>
<thead>
<tr>
<th>CAREERS</th>
<th>Bachelor of Science, Bachelor of Business</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>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>
<tr>
<td>Possible jobs</td>
<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>

www.uts.edu.au/future-students/science

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.
You will develop practical scientific and mathematical skills with an international dimension. International study is unique as it 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.

COURSE STRUCTURE

**Bachelor of Science*, Bachelor of Arts in International Studies**

- **2015 ATAR:** 78.65
- **UAC Code:** 609250
- **UTS COURSE Code:** C10243
- **Duration:** 5 years (full-time)

**Bachelor of Medical Science, Bachelor of Arts in International Studies**

- **2015 ATAR:** 89.95
- **UAC Code:** 609255
- **UTS COURSE Code:** C10167
- **Duration:** 5 years (full-time)

**Bachelor of Health Science in Traditional Chinese Medicine, Bachelor of Business Arts in International Studies (China only)**

- **2015 ATAR:** 75.90
- **UAC Code:** 609346
- **UTS COURSE Code:** C10164
- **Duration:** 6 years (full-time)

**Bachelor of Mathematics and Computing, Bachelor of Business Arts in International Studies**

- **2015 ATAR:** 84.55
- **UAC Code:** 609225
- **UTS COURSE Code:** C10224
- **Duration:** 5 years (full-time)

**KEY INFORMATION**

**Bachelor of Science*, Bachelor of Arts in International Studies**

- **2015 ATAR:** 78.65
- **UAC Code:** 609250
- **UTS COURSE Code:** C10243
- **Duration:** 5 years (full-time)

**Bachelor of Medical Science, Bachelor of Arts in International Studies**

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- **2015 ATAR:** 84.55
- **UAC Code:** 609225
- **UTS COURSE Code:** C10224
- **Duration:** 5 years (full-time)

**Bonus Points:** Available, see page 49

**How to Apply:** See page 49

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>Major / Degree</th>
<th>Career options</th>
<th>Possible jobs</th>
<th>More info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Science, Bachelor of Arts in International Studies</td>
<td>Global opportunities are enhanced by the international perspective provided by the international studies component and by the specific language and culture chosen.</td>
<td>Include positions in government departments, private and public hospitals and public health units, nationally and internationally.</td>
<td><a href="http://www.handbook.uts.edu.au/courses/c10243.html">www.handbook.uts.edu.au/courses/c10243.html</a></td>
</tr>
<tr>
<td>Bachelor of Medical Science, Bachelor of Arts in International Studies</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>Include acupuncture or Chinese herbal medicine practitioner in private or community health services.</td>
<td><a href="http://www.handbook.uts.edu.au/courses/c10167.html">www.handbook.uts.edu.au/courses/c10167.html</a></td>
</tr>
<tr>
<td>Bachelor of Health Science in Traditional Chinese Medicine, Bachelor of Arts in International Studies (China)</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>Include programmer, quantitative analyst, software engineer, systems analyst and technical applications software developer.</td>
<td><a href="http://www.handbook.uts.edu.au/courses/c10164.html">www.handbook.uts.edu.au/courses/c10164.html</a></td>
</tr>
<tr>
<td>Bachelor of Mathematics &amp; Computing, Bachelor of Arts in International Studies</td>
<td>Demand for mathematics and computing skills is increasing as quantitative analysis becomes more widespread in dealing with commercial and industrial problems.</td>
<td></td>
<td><a href="http://www.handbook.uts.edu.au/courses/c10224.html">www.handbook.uts.edu.au/courses/c10224.html</a></td>
</tr>
</tbody>
</table>

**MAJORS AVAILABLE**

For more details on specific science majors, please refer to the relevant single major/degree on pages 13 to 38.

**BACHELOR OF SCIENCE MAJORS**

- Applied Chemistry
- Applied Physics
- Nanotechnology

**Physical Sciences Foundation Stream**

**Life Sciences Foundation Stream**

- Biotechnology
- Biomedical Science
- Medical Science
- Environmental Sciences

**BACHELOR OF ARTS IN INTERNATIONAL STUDIES**

- Argentina
- Canada
- Chile
- China
- Colombia
- Costa Rica
- France
- Germany
- Italy
- Japan
- Latino USA
- Mexico
- Spain
- Switzerland

In-country study (Country of choice)

- French
- Spanish
- Chinese
- Italian
- Japanese

Learn a new language

More info

www.handbook.uts.edu.au/courses/c10164.html


www.handbook.uts.edu.au/courses/c10224.html
BACHELOR OF SCIENCE, BACHELOR OF CREATIVE INTELLIGENCE AND INNOVATION

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
- Flexible

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.

You are required to complete a total of 240 credit points or 36 subjects, comprising 24 science subjects and 12 creative intelligence and innovation core subjects.

You can complete the degree in four years of full-time study, with approximately 24 hours each week on campus.

You will be highly versatile as graduates of this degree 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 their chosen field of study, students will maximise the potential of their chosen profession, making them highly sought after.

For more detailed information, see http://handbook.uts.edu.au/courses/c10330.html

**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>Envisioning futures (6cp)</td>
</tr>
<tr>
<td></td>
<td>4 science subjects (24cp)</td>
<td>4 science subjects (24cp)</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 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>Professional Practice at the cutting edge (6cp)</td>
</tr>
<tr>
<td></td>
<td>4 science subjects (24cp)</td>
<td>4 science subjects (24cp)</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>
HONOURS YEAR: WHAT IS IT?

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.

WHAT ARE THE BENEFITS?

> Opens doors to many opportunities, especially in the field of scientific research.
> Opportunity to undertake exciting, original research under the supervision of recognised researchers, contributing to real discoveries and publishing one or more scientific papers.
> 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.

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. Exploring your research potential and producing a thesis at the end of the year.

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.

Full-time study will take one year, and part-time study is also available. Commencement is possible in March or mid-year depending on arrangements with your supervisors.

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

EMMA DAWSON

Honours project: Identifying protein interactions of a new tubulin-like protein, i.e. FtsZ4 in the archaeal organism Haloferax volcanii

Describe your honours project

My honours project involved looking at a possible missing link. The evolution of an important superfamily of proteins -Tubulin and FtsZ, where I aimed to develop and collect preliminary data for both artificial and native environment. I could identify interactions of my protein interest FtsZ4 with its native environment in Haloferax volcanii. In understanding what proteins FtsZ4 interacts with in its native environment it will help us further understand its function and structure within the cell.

Why did you choose to pursue an honours degree as opposed to going into the work force?

I chose to pursue an honours degree to give me the necessary lab experience once I’m in the workforce. I am also very keen on research, especially in cell biology because it is an important fundamental area of research. I chose a proteomics honours project because it is one of the upcoming areas of research, where it combined both cell biology and proteomics and allowed me to receive a range of scientific knowledge and skills.

What attracted you to research at UTS Science?

Research challenges past and current science, and looks at the greater picture and the impact of science in the society, which I liked a lot. Also you cannot go past the facilities available at UTS. But in the end, the atmosphere at UTS Science is always buzzing – keep you active, excited and motivated!
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.studyassist.gov.au for more info.

FEES FROM 2016 ONWARDS
As part of its 2014-15 Budget announcements, the Federal Government indicated its intention to introduce major changes to higher education funding that will have significant implications for universities and students, particularly Commonwealth Supported students. These changes are subject to the passage of legislation. In the case that this legislation is passed through the Senate, UTS will work closely with the Department of Education to determine fee amounts for 2016 onwards. Check www.uts.edu.au/future-students/undergraduate for updates.

INTERNATIONAL STUDENTS
This guide is not intended for international students. For information on fees for international students visit: 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

SCHOLARSHIPS
UTS Science offers a range of scholarships to high achieving school leavers who would like to pursue their Bachelor’s degree at UTS Science. These Scholarships include:

UTS Science Dean’s Scholarship
> Two awarded annually to top HSC students
> Value: $10,000

UTS Science High Achievers Scholarship
> Over 20 awarded annually to top HSC students.
> Value: $2,000 pa over three years

UTS Science Indigenous Scholarship
> Two awarded annually to top Indigenous students.
> Value: $2,000 pa over three years

For more details on Faculty-specific scholarships, visit www.science.uts.edu.au/future

The University also offers a range of scholarships to assist students in need of financial assistance.

Vice-Chancellor’s Outstanding Achievement Scholarship
> UTS offers up to five of these scholarships to top HSC students.
> Value: $12,500 pa for the duration of your undergraduate studies.

Vice-Chancellor’s Merit Scholarship
> UTS offers up to five of these scholarships to top HSC students who are assessed as being in need of financial assistance.
> Value: $12,500 pa for the duration of your undergraduate study in any discipline.

Vice-Chancellor’s Indigenous Undergraduate Tuition Fee Scholarship
> Scholarships are awarded on academic merit to Australian Indigenous students who are commencing higher education studies for the first time.
> Value: Tuition fees for the duration of your undergraduate studies.

For information on all scholarships visit http://uts.ac/scholarshipsuts
Applications for 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.

CURRENT SCHOOL LEAVERS
For high school student applicants, selection is based on your ATAR or IB only. If you completed your IB in another country you may also need to demonstrate your English language proficiency. You may also be eligible for entry via one of the UTS Access Schemes.

MATURE-AGED STUDENTS AND NON-CURRENT SCHOOL LEAVERS
Selection is based on academic merit, measured by your previous ATAR and/or post school subjects already completed. You may also be eligible for entry via one of the UTS Access Schemes.

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. Visit: www.jumbunna.uts.edu.au

ENTRY SCHEMES
Year 12 Bonus Scheme
If you are in high school and perform well in HSC subjects relevant to the degree you apply for, you may be eligible to receive up to a maximum of 5 year 12 bonus points.

For more information visit uts.edu.au/futurestudents/year-12-bonus

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:

> inpUTS Educational Access Scheme awards 10 concessional ATAR points for high school leavers and students with post-secondary qualifications who have experienced educational disadvantage.

> 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.

For more information visit: www.uts.edu.au/future-students/undergraduate
AUSTRALIA’S NEWEST CAMPUS

OUR REINVENTED CAMPUS IS NOW READY, WITH THREE NEW BUILDINGS AND A HOST OF WORLD-CLASS FACILITIES. VISIT US TO SEE WHY UTS IS AUSTRALIA’S MOST INNOVATIVE CAMPUS.

UTS OPEN DAY

29 AUGUST 2015
City campus, 9am – 4pm
Register online at openday.uts.edu.au

DISCLAIMER: The information in this brochure is correct as of February 2015. Changes in circumstances after this date may alter the accuracy or currency of the information. UTS reserves the right to alter any matter 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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