Science, Mathematics, Agriculture and Environment

2023 Undergraduate Programs
Advanced Science
Agribusiness
Agricultural Science
Biomedical Science
Biotechnology
Environmental Management
Environmental Science
Equine Science
Mathematics
Occupational Health and Safety Science
Science
Veterinary Science
Veterinary Technology
Wildlife Science
QS Graduate Employability Rankings 2022

#1 in Queensland for graduate employability

3 Campuses
6 Faculties
56,000+ students from more than 140 countries

UQ acknowledges the Traditional Owners and their custodianship of the lands on which UQ is situated.
— Reconciliation at UQ
More national teaching awards than any other Australian university

#1 university in Australia in the prestigious Nature index

100% carbon neutral
Largest choice of science disciplines
UQ Science offers you a huge diversity of disciplines, encompassing pathways to traditional and emerging cross-disciplinary science careers, and incorporating broader options for careers in areas such as agriculture, biomedical science, veterinary science, the environment and food technology, to name a few.
You will find job opportunities among the largest employers of scientists, technologists, business managers, consultants and other professionals, both in Australia and overseas.

Great career outcomes
As a UQ Science graduate, your comprehensive, up-to-date knowledge and practical skills will equip you to undertake key roles in solving the challenges facing our world today. You can anticipate high employability rates and attractive starting salaries because of your skills and expertise. You will also have access to other UQ graduates through a strong global network of science alumni.

Exceptional learning opportunities
As a UQ Science student you will be exposed to a range of relevant and innovative programs that will prepare you to work in solving local, national and global challenges. You will access exceptional learning experiences with highly awarded teachers who will help you gain insights into the complexity of topical and contemporary problems through case studies and scenarios. Your classes will be enhanced by online interactive modules incorporating virtual objects such as 3D models or ‘virtual field trips’ using immersive visualisation eLearning tools. You will build and extend your technical and applied expertise through a combination of laboratory-based practicals, workshops, Australian or international field studies, internships and work experience. This blend of discipline-focused and practical knowledge will allow you to develop your analytical, teamwork and problem-solving skills to equip you for a career in industry or research.
You will also access premier student social and learning facilities, and the largest number of science-based teaching and research spaces in Queensland.

Practical experience
You will benefit from interacting with industry representatives, undertaking professional placements or internships, participating in the Summer Research Program with award-winning UQ researchers, and integrating industry-based training and real-life projects into your theoretical studies.
Your program may incorporate a year of research-intensive study called ‘honours’, or you may choose to complete honours as an additional component to gain valuable project management and research skills.
Your practical experience will open your world to a diverse range of careers that will allow you to work on issues such as climate change, biosecurity, feeding the global population, sustainable energy, disease eradication and the management of diminishing natural resources.
You may even choose to study overseas at one of UQ’s 140 international partner organisations to add a global perspective to your employment options.
Embark on a journey with us and discover how UQ is uniquely placed to make a difference to your future.

* QS World University Rankings 2021
SCIENCE, MATHEMATICS, AGRICULTURE AND ENVIRONMENT 2023

CONTENTS

Why study science at UQ? 2
Experience UQ 4
Apply for a scholarship 5
Quick reference guide 6
A truly global network 8
UQ Skills vocational training 9
Program table explained 10

UNDERGRADUATE DEGREES

Bachelor of:
- Advanced Science (Honours) 11
- Agribusiness 12
- Agricultural Science 13
- Biomedical Science 14
- Biotechnology 15
- Environmental Management (Honours) 16
- Environmental Science 17
- Equine Science 18
- Mathematics 19
- Occupational Health and Safety Science (Honours) 20
- Science 21
- Double your opportunities – Science dual programs 22
- Using the BSc as your pathway 23
- Bachelor of Science majors and minors 23

Bachelor of Science majors and minors
- Applied Mathematics
  - Extended Major/Major/Minor 24
- Archaeological Science
  - Major/Minor 24
- Astrophysics
  - Minor 24
- Biochemistry and Molecular Biology
  - Extended Major/Major/Minor 25
- Bioinformatics
  - Major/Minor 25
- Biomedical Science
  - Extended Major/Major 26
- Biophysics
  - Minor 26
- Cell Biology
  - Extended Major/Major/Minor 27
- Chemical Biology
  - Minor 27
- Chemistry
  - Extended Major/Major/Minor 28
- Coastal and Ocean Science
  - Extended Major/Major/Minor 28
- Computational Science
  - Minor 29
- Computer Science
  - Extended Major/Major/Minor 29
- Developmental Biology
  - Minor 29
- Earth Science
  - Extended Major/Major/Minor 30
- Ecology and Conservation Biology
  - Extended Major/Major/Minor 30
- Entomology
  - Minor 30
- Food Science and Nutrition
  - Major 31
- Food Technology
  - Major/Minor 31
- Genetics
  - Extended Major/Major/Minor 32
- Geographical Science
  - Extended Major/Major/Minor 32
- Geographical Information Science
  - Minor 33
- Human Anatomy
  - Minor 33
- Human Physiology
  - Minor 33
- Immunology
  - Minor 34
- Marine Biology
  - Major/Minor 34
- Mathematics
  - Extended Major/Major/Minor 35
- Microbiology
  - Major/Minor 35
- Microbiology, Infection and Immunity
  - Extended Major 36
- Neuroscience
  - Minor 36
- Pharmacology
  - Minor 36
- Physics
  - Extended Major/Major/Minor 37
- Plant Science
  - Major/Minor 37
- Psychology
  - Extended Major/Major/Minor 38
- Public Health
  - Major 38
- Statistics
  - Major/Minor 39
- Zoology
  - Extended Major/Major/Minor 39
- Veterinary Science (Honours) 40
- Veterinary Technology 41
- Wildlife Science 42
- UQ Gatton 43
- Student lifestyle 44
- Plan your finances 45
- UQ living 46
- Are you an international student? 47
- Applying to UQ 48
- Study options 49
Experience UQ

We offer a range of experiences both before you start at UQ and once you’re studying, so you can make the most of your time at UQ.

UQ Open Day
St Lucia campus 7 August 2022
Gatton campus 21 August 2022
Find out about programs and courses, explore the campus and facilities, meet staff and current students, and enjoy the range of fun activities at this free event.
future-students.uq.edu.au/open-day

Experience UQ before you arrive
UQ offers students in years 9-12 access to a wide range of unique practical science experiences including:

- Future Experiences in Agriculture, Science and Technology (FEAST)
  4 days, residential

Experience Ecology
1 day, on campus

Heron Island and Moreton Bay Research Station Camps
1-5 days (customisable), residential

Student experience
Proactively build your employability with tailored programs and individual consultations that will make you stand out to employers during and on completion of your study. We partner with external employers, alumni, businesses, government and community organisations to create learning and engagement opportunities, including industry placements and internships. Some of the programs you can take advantage of as a UQ student include:

Leadership and Mentoring Program in Science (LaMPS)
Develop your leadership and mentoring capabilities through a series of online modules, on-campus workshops and events, and a residential camp. Learn about the psychology of leadership theory, emotional intelligence, the difference between leadership and management, how to lead yourself and others, and peer mentoring. LaMPS runs in Semester 2 each year and provides a pathway into the Science Leaders Academy.

future-students.uq.edu.au/open-day
Make your UQ experience more affordable with the support of a scholarship. You may not think you’re eligible, but you might be surprised!

University-wide scholarships
UQ has a range of scholarships designed to attract, reward and support outstanding students from all walks of life. Our scholarships develop and encourage tomorrow’s leaders and offer support to students who might not otherwise be able to attend university.

UQ Academic Scholarships
The UQ Academic Scholarships scheme offers two flagship undergraduate scholarships: UQ Vice-Chancellor’s Scholarships and UQ Excellence Scholarships.
If you’re completing Year 12 in 2022, or you completed Year 12 in 2021 and are on a gap year, you may be eligible to apply for a scholarship.

Equity scholarships
UQ strongly believes all students deserve equal access to education. Equity scholarships are designed to support students from low socio-economic, disadvantaged or under-represented backgrounds.

Study area scholarships
UQ has a diverse range of scholarships that support and encourage commencing and continuing students in particular study areas.
scholarships.uq.edu.au

Employability
UQ offers a variety of grants and loans to participate in a range of enriching international and domestic experiences that will enhance your employability.
employability.uq.edu.au/financial-support

Sporting
Elite athlete support
UQ is an elite athlete-friendly university, which supports over 200 elite-level student-athletes to manage their sport and studies. Dedicated UQ Sport staff, in partnership with UQ, provide academic liaison support to negotiate flexible options for enrolment, assessment and course-related needs.
uqsport.com.au/scholarships

Get in early
Scholarship applications close at different times throughout 2022 – plan your applications and apply early so you don’t miss out!
scholarships.uq.edu.au
Quick reference guide

<table>
<thead>
<tr>
<th>BACHELOR DEGREE IN (MAJORS LISTED UNLESS OTHERWISE SPECIFIED)</th>
<th>MINIMUM SELECTION THRESHOLD 2022 ATAR / IB</th>
<th>PREREQUISITES</th>
<th>DURATION LOCATION</th>
<th>LOWEST ATAR TO RECEIVE AN OFFER 2022 ADJ</th>
<th>UNADJ</th>
<th>CAPUS</th>
<th>QTAC CODE</th>
<th>SEE PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Science (Honours) - Applied Mathematics; Archaeological Science; Biochemistry and Molecular Biology; Bioinformatics; Biomedical Science; Cell Biology; Chemistry; Coastal and Ocean Science; Computer Science; Earth Science; Ecology and Conservation Biology; Food Science and Nutrition; Food Technology; Genetics; Geographical Science; Marine Biology; Mathematics; Microbiology; Physics; Plant Science; Public Health; Statistics; Zoology</td>
<td>96.00 / 37</td>
<td>English, Mathematical Methods, plus two of Agricultural Science, Biology, Chemistry, Earth and Environmental Science, Physics or Specialist Mathematics, at least one of which must be Biology, Chemistry or Physics</td>
<td>4F or P</td>
<td>95.10</td>
<td>91.90</td>
<td>H*</td>
<td>73901</td>
<td>11</td>
</tr>
<tr>
<td>Agribusiness</td>
<td>77.00 / 27</td>
<td>English and General Mathematics or Mathematical Methods</td>
<td>3F or P</td>
<td>77.70</td>
<td>77.70</td>
<td>G, S</td>
<td>766001</td>
<td>12</td>
</tr>
<tr>
<td>Agribusiness / Agricultural Science</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agribusiness / Equine Science</td>
<td>77.00 / 27</td>
<td>English and General Mathematics or Mathematical Methods</td>
<td>4F or P</td>
<td>80.85</td>
<td>80.85</td>
<td>G, S</td>
<td>766001</td>
<td>12, 18</td>
</tr>
<tr>
<td>Agribusiness / Wildlife Science</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural Science - Agronomy; Animal Science; Horticulture</td>
<td>77.00 / 27</td>
<td>English and General Mathematics or Mathematical Methods</td>
<td>3F or P</td>
<td>77.55</td>
<td>77.55</td>
<td>G</td>
<td>762019</td>
<td>13</td>
</tr>
<tr>
<td>Biomedical Science</td>
<td>85.00 / 31</td>
<td>English, Mathematical Methods, plus one of Biology, Chemistry or Physics</td>
<td>3F or P</td>
<td>85.00</td>
<td>82.15</td>
<td>S</td>
<td>73201</td>
<td>14</td>
</tr>
<tr>
<td>Biomedical Science / Science</td>
<td>85.00 / 31</td>
<td>English, Mathematical Methods, plus one of Biology, Chemistry or Physics</td>
<td>4F or P</td>
<td>86.50</td>
<td>84.45</td>
<td>S</td>
<td>73211</td>
<td>14, 22</td>
</tr>
<tr>
<td>Biotechnology - Agricultural Biotechnology; Chemical and Nano Biotechnology; Medical Biotechnology; Molecular and Microbial Biotechnology; Synthetic Biology and Industrial Biotechnology - Minors: Bioinformatics; Innovation and Entrepreneurship</td>
<td>81.00 / 29</td>
<td>English, Mathematical Methods, plus one of Biology, Chemistry or Physics</td>
<td>3F or P</td>
<td>82.10</td>
<td>79.85</td>
<td>S</td>
<td>73101</td>
<td>15</td>
</tr>
<tr>
<td>Business Management / Science</td>
<td>80.00 / 29</td>
<td>English, Mathematical Methods, plus one of Biology, Chemistry, Earth and Environmental Science, or Physics</td>
<td>4F or P</td>
<td>81.85</td>
<td>79.85</td>
<td>S</td>
<td>70501</td>
<td>22</td>
</tr>
<tr>
<td>Commerce / Science</td>
<td>85.00 / 31</td>
<td>English, Mathematical Methods, plus one of Biology, Chemistry, Earth and Environmental Science or Physics</td>
<td>4F or P</td>
<td>85.85</td>
<td>81.85</td>
<td>S</td>
<td>71701</td>
<td>22</td>
</tr>
<tr>
<td>Computer Science / Science</td>
<td>86.00 / 32</td>
<td>English, Mathematical Methods, plus one of Biology, Chemistry, Earth and Environmental Science or Physics. Specialist Mathematics is recommended*</td>
<td>4F or P</td>
<td>90.15</td>
<td>89.95</td>
<td>S</td>
<td>73301</td>
<td>22</td>
</tr>
<tr>
<td>Economics / Science</td>
<td>85.00 / 31</td>
<td>English, Mathematical Methods, plus one of Biology, Chemistry, Earth and Environmental Science or Physics. Specialist Mathematics is recommended*</td>
<td>4F or P</td>
<td>89.40</td>
<td>89.40</td>
<td>S</td>
<td>71301</td>
<td>22</td>
</tr>
<tr>
<td>Engineering (Honours) / Biotechnology</td>
<td>86.00 / 32</td>
<td>English, Mathematical Methods, plus one of Chemistry or Physics. Specialist Mathematics is recommended*</td>
<td>5F or P</td>
<td>86.35</td>
<td>85.20</td>
<td>S</td>
<td>71501</td>
<td>15</td>
</tr>
<tr>
<td>Engineering (Honours) / Mathematics</td>
<td>93.00 / 36</td>
<td>English, Mathematical Methods, plus one of Chemistry or Physics. Specialist Mathematics is mandatory*</td>
<td>5F or P</td>
<td>93.00</td>
<td>88.75</td>
<td>S</td>
<td>71901</td>
<td>19</td>
</tr>
<tr>
<td>Engineering (Honours) / Science</td>
<td>86.00 / 32</td>
<td>English, Mathematical Methods, plus one of Chemistry or Physics. Specialist Mathematics is mandatory*</td>
<td>5F or P</td>
<td>86.30</td>
<td>83.95</td>
<td>S</td>
<td>71701</td>
<td>22</td>
</tr>
<tr>
<td>Environmental Management (Honours)</td>
<td>80.00 / 29</td>
<td>English</td>
<td>4F or P</td>
<td>80.30</td>
<td>80.30</td>
<td>S</td>
<td>70501</td>
<td>16</td>
</tr>
<tr>
<td>Environmental Science</td>
<td>84.00 / 30</td>
<td>English, Mathematical Methods and one of Biology, Chemistry, Earth and Environmental Science or Physics</td>
<td>3F or P</td>
<td>85.00</td>
<td>84.10</td>
<td>S</td>
<td>738001</td>
<td>17</td>
</tr>
<tr>
<td>Equine Science</td>
<td>75.00 / 26</td>
<td>English and General Mathematics or Mathematical Methods</td>
<td>3F or P</td>
<td>75.30</td>
<td>73.75</td>
<td>G</td>
<td>78709</td>
<td>18</td>
</tr>
<tr>
<td>Information Technology / Science</td>
<td>86.00 / 32</td>
<td>English, Mathematical Methods, plus one of Biology, Chemistry, Earth and Environmental Science or Physics</td>
<td>4F or P</td>
<td>86.80</td>
<td>86.80</td>
<td>S</td>
<td>73301</td>
<td>22</td>
</tr>
</tbody>
</table>

* Minimum (adjusted) selection threshold 2022 is the minimum score that was considered for an offer of a place to all applicants.
* Lowest ATAR to receive an offer refers to all recent secondary students who were offered a place for Semester 1, 2022. The lowest ATAR (Adjusted) refers to the ATAR plus any adjustment factors. The Lowest ATAR (Unadjusted) refers to the lowest ATAR excluding any adjustment factors.

**Fee Band** See table on page 45 for indicative fees.
**Prerequisites** All prerequisites are at Year 12 level with a minimum grade of C over four semesters.
**Duration** The time normally taken to complete a program, according to the mode in which it is undertaken. F = full-time, P = part-time.
**Location** S = UQ St Lucia, G = UQ Gatton, H = UQ Herston
<table>
<thead>
<tr>
<th>BACHELOR DEGREE IN (MAJORS LISTED UNLESS OTHERWISE SPECIFIED)</th>
<th>MINIMUM SELECTION THRESHOLD 2022 ATAR / IB</th>
<th>PREREQUISITES</th>
<th>DURATION (YEARS)</th>
<th>LOWEST ATAR TO RECEIVE AN OFFER 2022</th>
<th>CAMPUS</th>
<th>QTAC CODE</th>
<th>SEE PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics - Applied Mathematics; Data Analytics and Operations Research; Mathematical Physics; Pure Mathematics; Statistics</td>
<td>93.00 / 36</td>
<td>English and Mathematical Methods. Specialist Mathematics is recommended</td>
<td>3F or P</td>
<td>93.80</td>
<td>91.80</td>
<td>S</td>
<td>714401</td>
</tr>
<tr>
<td>Mathematics / Arts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics / Business Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics / Commerce</td>
<td>93.00 / 36</td>
<td>English and Mathematical Methods. Specialist Mathematics is recommended</td>
<td>4F or P</td>
<td>93.30</td>
<td>91.30</td>
<td>S</td>
<td>714421</td>
</tr>
<tr>
<td>Mathematics / Computer Science</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics / Economics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics / Education (Secondary)**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics / Science</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music (Honours) / Science</td>
<td>80.00 / 29</td>
<td>English, Mathematical Methods, plus one of Biology, Chemistry, Earth and Environmental Science, or Physics</td>
<td>5F</td>
<td>83.15</td>
<td>83.15</td>
<td>S</td>
<td>723402</td>
</tr>
<tr>
<td>Occupational Health and Safety Science (Honours)</td>
<td>78.00 / 28</td>
<td>English, Mathematical Methods, plus one of Chemistry, Physics or Biology</td>
<td>4F or P</td>
<td>80.35</td>
<td>78.35</td>
<td>S</td>
<td>729201</td>
</tr>
<tr>
<td>Science</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applied Mathematics; Archaeological Science; Astrophysics; Biochemistry and Molecular Biology; Bioinformatics; Biomedical Science; Biophysics; Cell Biology; Chemical Biology; Chemistry; Coastal and Ocean Science; Computer Science; Developmental Biology; Earth Science; Ecology and Conservation Biology; Entomology; Food Science and Nutrition; Food Technology; Genetics; Geographical Science; Geographical Information Science; Human Anatomy; Human Physiology; Immunology; Marine Biology; Mathematics; Microbiology; Microbiology, Infection and Immunity**; Neuroscience; Pharmacology; Physics; Plant Science; Psychology; Public Health; Statistics; Zoology</td>
<td>80.00 / 29</td>
<td>English, Mathematical Methods, plus one of Biology, Chemistry, Earth and Environmental Science or Physics</td>
<td>3F or P</td>
<td>80.05</td>
<td>77.70</td>
<td>S</td>
<td>731001</td>
</tr>
<tr>
<td>Science / Arts</td>
<td>80.00 / 29</td>
<td></td>
<td></td>
<td>80.30</td>
<td>79.30</td>
<td>S</td>
<td>731501</td>
</tr>
<tr>
<td>Science / Education (Secondary)**</td>
<td>80.00 / 29</td>
<td>English, Mathematical Methods plus one of Biology, Chemistry, Earth and Environmental Science, or Physics</td>
<td>4F or P</td>
<td>80.85</td>
<td>80.85</td>
<td>S</td>
<td>731302</td>
</tr>
<tr>
<td>Science / Journalism</td>
<td>80.00 / 29</td>
<td></td>
<td></td>
<td>96.35</td>
<td>94.75</td>
<td>S</td>
<td>731602</td>
</tr>
<tr>
<td>Science / Laws (Honours)</td>
<td>98.00 / 41</td>
<td>English, Chemistry, Mathematical Methods, plus one of Physics or Biology and CASPer test***</td>
<td>5F or P</td>
<td>98.00</td>
<td>95.20</td>
<td>S</td>
<td>731801</td>
</tr>
<tr>
<td>Veterinary Science (Honours)***</td>
<td>99.40 / 43</td>
<td>English and either General Mathematics or Mathematical Methods. Biology, Chemistry and/ or Physics are recommended</td>
<td>3F or P</td>
<td>78.20</td>
<td>74.95</td>
<td>G</td>
<td>787309</td>
</tr>
<tr>
<td>Veterinary Technology</td>
<td>78.00 / 28</td>
<td>English and either General Mathematics or Mathematical Methods. Biology, Chemistry and/ or Physics are recommended</td>
<td>3F or P</td>
<td>75.05</td>
<td>71.15</td>
<td>G</td>
<td>787209</td>
</tr>
</tbody>
</table>

* Only the Public Health major is offered at the Herston campus.
** Available as an extended major only.
*** Available as a minor only.
† Students without Specialist Mathematics (or equivalent) may be required to undertake preparatory courses beyond the 64 units for the program, and may not be able to complete the program in the minimum time frame without overloading or undertaking summer study.
** Students may take the program on a part-time basis, but the final year must be commenced in Semester 1 and must be taken on a full-time basis.
*** Applicants must complete a situational judgement test that recognises attributes other than academic performance. See future-students.uq.edu.au

Prerequisites:
Before 2019 | From 2019 replaced by
--- | ---
Mathematics A | General Mathematics
Mathematics B | Mathematical Methods
Mathematics C | Specialist Mathematics
Earth Science | Earth and Environmental Science
A truly global network

You know the importance of thinking and acting globally. So do we.

Our worldwide partner and alumni networks give you the international opportunities and connections to enhance your learning, life skills and employment prospects from the start of your degree to long after you graduate.

Grow your global network
As a UQ student, St Lucia, Herston or Gatton is just the first stop on your university adventure. Grow your global network through our student exchange program by studying up to two semesters of your degree at one of our 141 partner institutions in 34 countries.

You’ll gain credit while expanding your world perspective, enhancing your employability, developing your network, and maybe even learning a new language. While on exchange, tuition fees at the host university are waived as you remain enrolled at and pay fees to UQ.

employability.uq.edu.au/get-experiences

Unlock new languages
In a global economy, the ability to communicate with a wide range of people is invaluable. Want to brush up on your language skills? Current undergraduate students can study a Diploma in Languages alongside any UQ program. Language classes are also offered to students and the public at our Institute of Modern Languages where you can choose from more than 25 different languages.

School of Languages and Cultures
languages-cultures.uq.edu.au
Institute of Modern Languages
iml.uq.edu.au

Take a short-term experience
While studying, you can participate in short-term global and virtual study experiences scheduled during the semester breaks, where you can immerse yourself in a new culture for two to eight weeks to enhance your academic learning and employability. If you’re looking at expanding your practical skillset through short-term work experiences, opportunities for domestic, virtual and global internships are available.

employability.uq.edu.au/get-experiences

Global Startup AdVentures
Learn alongside a startup in some of the world’s most vibrant startup hot spots – including San Francisco, Shanghai, Shenzhen, Tel Aviv and Singapore.

ventures.uq.edu.au/startup-adventures

Partner for change
Global connectivity is at the heart of our vision to create knowledge leadership for a better world. From renewable energy technologies and sustainable mining practices, to disease control and child psychology, our international collaborations are working towards a cleaner, healthier and happier future. Explore our impact around the world.

global-engagement.uq.edu.au

We are a member of the prestigious Group of Eight coalition in Australia and the leading global network of research universities, Universitas 21.
Even more pathways to careers

Whether you're still at school, about to finish your studies, a mature age student, or seeking a career change, let UQ Skills put your career on the right track.

UQ Skills is a Registered Training Organisation (RTO #1511) offering government- and industry-subsidised and fee-for-service training programs through UQ.

With UQ Skills you can study entry-level qualifications at school to start your career. Post-schooling, UQ Skills can help you gain higher technical skills and business-related knowledge for management roles. UQ Skills has a range of programs to help you achieve your specific career goals.

Study at school (Vocational Education and Training in schools)

UQ Skills offers a range of government funded Certificate II programs for Year 10, 11 and 12 students. These can count towards your Queensland Certificate of Education (QCE).

Certificate III programs, while not government funded, are offered at a low fee-for-service price. These certificate programs can give you the skills to jump right into employment in rural areas and animal industries. Learn to work with and care for animals, including wildlife and exhibited animals to provide a pathway to be a veterinary nurse or wildlife expert. Undertake agricultural programs to learn how to safely store and transport chemicals; identify, handle and draft livestock; operate and maintain machinery, including quad bikes, tractors and side by side utility vehicles; and undertake weed control. Visit the UQ Skills website to see the latest courses on offer.

No matter where you are, you can choose a study option to suit you:
• online, blended and/or face-to-face depending on your needs
• onsite (at your school) and/or offsite delivery locations
• intensive block training at your school or a training camp at UQ Skills’ training centre on UQ’s Gatton campus.

Study after leaving school

If you don't complete a Certificate II or III at school you can study these, and other higher level programs, with UQ Skills when you finish school.

Why not learn to manage a range of operations in the expanding technical global agricultural sector? Learn from leading industry experts who will teach you strategies in analysing information and complex decision-making.

If you already have a certificate qualification, choose from programs such as the Diploma of Agribusiness Management (AHC51419) or the dual Diploma in Agribusiness Management (AHC51419)/Diploma of Agriculture (AHC50116). You’ll gain advanced technical skills and business-related knowledge to move into middle management in a rural enterprise.

Need to fast-track your skills?

UQ Skills offers short accredited training programs in farm business management, rural leadership and other areas which provide credit towards further study. These one- to two-week programs have online theory components with two- to four-day practical training workshops. UQ Skills also offers 100% online programs to allow for training in regional and remote areas across Queensland.

Or if you already have skills you’ve developed through prior work experience, have these formally recognised so they count towards entry into other programs. UQ Skills can help you through this skills recognition process to access further training and formalise your industry experience.

Let UQ Skills be your pathway into a career. Contact the UQ Skills team now to find out more.

UQ Skills
+61 7 5460 1353
uqskills@uq.edu.au
# Program table explained

<table>
<thead>
<tr>
<th>QTAC CODE</th>
<th>UQ CODE</th>
<th>MINIMUM SELECTION THRESHOLD 2022 ATAR / IB</th>
<th>LOWEST ATAR TO RECEIVE AN OFFER 2022</th>
<th>DURATION</th>
<th>START SEMESTER</th>
<th>CAMPUS</th>
<th>HONOURS</th>
<th>DUAL PROGRAM AVAILABLE</th>
<th>ADMISSION REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**QTAC CODE**
A unique code number assigned by QTAC to each individual undergraduate university program. You will need to use this number on your QTAC application.

**UQ CODE**
A unique identifying number assigned by UQ for each academic program.

**MINIMUM SELECTION THRESHOLD 2021 ATAR / IB**
The minimum (adjusted) selection threshold is the minimum score that was considered for an offer of a place to all applicants. IB – International Baccalaureate points.

**ATAR** - The Australian Tertiary Admission Rank (ATAR) is the standard measure of overall school achievement used in all Australian states and territories. It is a rank indicating a student’s position overall relative to other students. The ATAR is expressed on a 2000-point scale from 99.95 (highest) down to 0, in increments of 0.05. The ATAR replaced the Overall Position (OP) as the standard pathway to tertiary study for Queensland Year 12s in 2021.

**ADJUSTMENT FACTORS**
Previously referred to as ‘bonus points’, these are a numerical value added to or used in combination with an ATAR. Common adjustment factors may include subject adjustments, enrichment studies, or educational disadvantage.

**Adjusted**
The lowest ATAR to which an offer was made to recent school leavers including any adjustment factors that may have been applied.

**Unadjusted**
The lowest ‘raw’ ATAR to which an offer was made to recent school leavers, excluding any adjustment factors.

**DURATION**
The time it takes to complete a program when it is studied full-time.

**Full time** - The standard study load is eight units per semester. Full-time study is 75 per cent or more of the standard study load (i.e. six units per semester for most programs).

**Part time** - Part-time study load is less than 75 per cent of the standard study load (i.e. less than six units per semester for most programs).

**START SEMESTER**
The academic year at UQ is divided into two main semesters. Semester 1 starts at the end of February and Semester 2 starts at the end of July.

**CAMPUS**
One of three UQ teaching sites where the majority of lectures are held.

**HONOURS**
At UQ, honours may be awarded as a one-year bachelor’s honours degree after you have completed a bachelor’s degree, or as a single bachelor’s honours degree typically taking four years of study. Some undergraduate programs allow eligible students to transfer to a bachelor’s honours degree at a defined point in the bachelor’s degree. This box shows whether honours is available with a program.

**DUAL PROGRAM**
Two UQ degree programs undertaken at the same time (sometimes known as dual/parallel/combined/double degree). This box lists dual programs you can choose to study with a program.

**ADMISSION REQUIREMENTS**
Some programs require you to have completed specific subjects (or their equivalent) at school. Some also have additional requirements.
Bachelor of Advanced Science (Honours)

Challenge and develop your critical thinking and analytical skills in this elite four-year program, and prepare yourself for a rewarding career in science research and industry.

**Why Advanced Science (Honours) at UQ?**

The Bachelor of Advanced Science (Honours) is a four-year specialised program that will challenge you to become a high-achieving future leader in science. Pursue your scientific passion while gaining extensive research experience under the guidance of prominent research scientists and thought-leaders.

Throughout your program you’ll work alongside researchers and collaborate with your peers on cutting-edge research projects to challenge your problem-solving capabilities and develop your research, analytical and communication skills.

**What you will study**

In your first year you’ll enhance your interdisciplinary scientific knowledge and practical skills with a broad range of advanced courses.

You’ll then choose a specialisation and further develop your scientific and technical skills. Add to your specialisation with a major or minor across a broad range of scientific fields. UQ offers one of the broadest selections of science disciplines in Australia. Choose from 24 majors and 32 minors.

Alternatively, follow your curiosity outside the world of science and diversify your skill set by choosing from 46 minors in other study areas. For instance, you can combine your science specialisation with a choice of minors in languages, communication, design or economics.

The program’s structure is flexible and allows you a wide choice of study options that can lead to greater career opportunities.

In your final year, you will complete an independent research project in your chosen specialisation. In some cases this may also be combined with advanced coursework to enhance your expertise.

This project will give you in-depth skills for a research career, as well as building your skills in scientific analysis, critical thinking, writing and communication, which are in demand in both academic and corporate sectors.

You’ll graduate with a respected honours qualification, with advanced knowledge and skills that will set you apart in a competitive job market, prove your leadership potential, and provide a pathway into future research and learning.

**Careers**

You will be sought by industry and research organisations for your excellent problem-solving abilities. You will find expanding career possibilities in the government, health, corporate, environmental and financial sectors and in research organisations globally. You’ll be able to undertake a diverse range of roles such as a biochemist, embryologist, palaeo-environmental scientist, biodiversity project officer, exploration technician, biomedical scientist, wildlife management officer, mine geologist, quantitative researcher, or materials scientist.

Advanced Science is also an excellent pathway into medicine or a higher degree by research (HDR) such as a PhD.

**Sample Courses**

In addition to core courses, choose from over 30 advanced courses including:

- Advanced Theory and Practice in Science
- Advanced Biochemistry and Molecular Biology
- Advanced Biostatistics
- Advanced Molecular Cell Biology I
- Advanced Genetics
- Advanced Plant Biology
- Advanced Zoology
- Advanced Ecology
- Advanced Integrative Cell and Tissue Biology
- Advanced Techniques in Biomedical Science
- Advanced Intermediate Chemistry 1
- Advanced Intermediate Chemistry 2
- Advanced Calculus & Linear Algebra II
- Mathematical Analysis and Advanced Topics
- Advanced Microbiology and Immunology
- Advanced Quantum Mechanics I
- Advanced Fields in Physics I
- Advanced Bioinformatics I: Introduction
- Advanced Structural and Synthetic Biology
- Current Topics in Plant Science
- Advanced Genomics
- Advanced Molecular Cell Biology II
- Advanced Research Experience in Biology
- Principles of Biomedical Research
- Advanced Organic Chemistry
- Advanced Inorganic Chemistry
- Advanced Microbes and Human Health
- Complex Analysis
- Advanced Statistical Mechanics
- Advanced Fields in Physics II
- Advanced Plant Science Project
- Advanced Mathematical Statistics

For more information future-students.uq.edu.au science.uq.edu.au/planner

---

### ADMISSION REQUIREMENTS

<table>
<thead>
<tr>
<th>QTAC CODE</th>
<th>UQ CODE</th>
<th>MINIMUM SELECTION THRESHOLD 2022* ATAR / IB</th>
<th>LOWEST ATAR TO RECEIVE AN OFFER 2022* ADJUSTED</th>
<th>DURATION</th>
<th>START SEMESTER</th>
<th>CAMPUS</th>
<th>HONOURS</th>
<th>ADMISSION REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>731901</td>
<td>2516</td>
<td>95.00 / 37</td>
<td>95.10</td>
<td>4 years full-time (or part-time equivalent)</td>
<td>1, 2</td>
<td>St Lucia</td>
<td>Part of standard program, awarded based on grade point average of specific courses</td>
<td>Old Year 12 (or equivalent) General English subject (Units 3 &amp; 4, C); Mathematical Methods (Units 3 &amp; 4, C); plus two of Agricultural Science, Biology, Chemistry, Earth and Environmental Science, Physics or Specialist Mathematics (Units 3 &amp; 4, C), at least one of which must be Biology, Chemistry or Physics</td>
</tr>
</tbody>
</table>

*Minimum (adjusted) selection threshold 2022 is the minimum score that was considered for an offer of a place to all applicants.

*Lowest ATAR to receive an offer refers to all recent secondary students who were offered a place for Semester 1, 2022. The lowest ATAR (Adjusted) refers to the ATAR plus any adjustment factors. The Lowest ATAR (Unadjusted) refers to the lowest ATAR excluding any adjustment factors.

---
Bachelor of Agribusiness

Prepare yourself for a successful business career in the rapidly changing agricultural industry. Learn all aspects of the growing, processing, trading and financing of food and fibres. Gain valuable transferable business skills recognised in Australia and globally.

Why Agribusiness at UQ?
Agribusiness drives the entire supply chain and plays a vital role in the global economy. It begins with the seeds that grow the crops and ends with the retail marketing of food and fibres to consumers.
It also contributes to the commercialisation of new biotechnologies and information technologies to improve the production and marketing of food and fibre products.
Study Agribusiness at UQ and you’ll prepare yourself for a business career in the rapidly changing agricultural industry.
You’ll discover how to improve food production using agricultural inputs and technologies. Develop strategies to increase production using agricultural inputs and technologies to improve the production and marketing of food and fibres. You will access world-class resources and financial and advisory services. Gain practical experience through case studies, business simulations, guest lectures, placements and practical experience.

What you will study
Learn about market linkages, finance, and managing people and technology along the agrifood value chain to link producers with consumers. Build your knowledge of agricultural value chains and the e-technologies driving efficiencies. Study domestic and international marketing, commodity trading, human resource management, finance, supply chain management and sustainability.
Tailor your studies through your elective courses towards your preferred career path.

Note: First year requires attendance at both St Lucia and Gatton campuses; subsequent years are based at Gatton. Your courses at St Lucia are taught by the UQ Business School. Your courses at Gatton are through the School of Agriculture and Food Sciences. Both Schools are highly ranked worldwide in the business and agricultural sectors, and you will learn from internationally recognised experts.

Placements and practical experience
Gain practical experience through case studies, business simulations, guest lectures, research projects and agribusiness site visits. In your final year, you’ll undertake a major group project with an agribusiness organisation, working in a small team to address the client's brief. Your project will focus on commercial outcomes and may include international market research. Apply your business skills and knowledge in a real-life business context.

Dual programs
Study the Bachelor of Agribusiness as a dual degree with Bachelor of Agricultural Science (majoring in Agronomy, Animal Science or Horticulture), Bachelor of Equine Science or Bachelor of Wildlife Science. Combine your practical business skills with your interests in any of three disciplines.

Career opportunities
On graduation you will be globally oriented and job ready. Find positions in the agricultural industry in managerial, administrative or research roles related to:
- agribusiness management and research
- agripolitics
- banking, finance, investment and insurance
- commodity trading
- sales and marketing
- export marketing and management
- Australian and international government agencies and departments
- policy development and analysis in agricultural and regional agencies
- property management
- supply chain management
- international aid and development agencies
- tourism.

SAMPLE COURSES
Accounting for Decision Making
Agrifood Strategy and Competitiveness
Agribusiness Planning and Management
Applied Market Research
Commodities, Futures and Options
Export Marketing and Practices
Food and Fibre Case Studies I, II and III
Food and Fibre in the E-Landscape
Foundations of Marketing
Introduction to Human Resource Management
Sustainable Food Supply Chains

For more information
future-students.uq.edu.au
science.uq.edu.au/planner

Find a career in Australian agribusiness, with the value of farm production forecast to reach a record $78 billion in 2021–22
Australian Bureau of Agricultural and Resource Economics

<table>
<thead>
<tr>
<th>QTAC CODE</th>
<th>UQ CODE</th>
<th>MINIMUM SELECTION THRESHOLD 2022* ATAR / IB</th>
<th>LOWEST ATAR TO RECEIVE AN OFFER 2022*</th>
<th>DURATION</th>
<th>START SEMESTER</th>
<th>CAMPUS</th>
<th>HONOURS</th>
<th>DUAL PROGRAM AVAILABLE</th>
<th>ADMISSION REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>766001</td>
<td>2007</td>
<td>77.70 / 27</td>
<td>77.70</td>
<td>3 years full-time (or part-time equivalent)</td>
<td>1</td>
<td>Gatton</td>
<td>N/A</td>
<td>Agricultural Science, Equine Science, Wildlife Science</td>
<td>Qld Year 12 (or equivalent) General English subject (Units 3 &amp; 4, C); General Mathematics or Mathematical Methods (Units 3 &amp; 4, C)</td>
</tr>
</tbody>
</table>

* Minimum (adjusted) selection threshold 2022 is the minimum score that was considered for an offer of a place to all applicants.
* Lowest ATAR to receive an offer refers to all recent secondary students who were offered a place for Semester 1, 2022. The lowest ATAR (Adjusted) refers to the ATAR plus any adjustment factors. The Lowest ATAR (Unadjusted) refers to the lowest ATAR excluding any adjustment factors.
Bachelor of Agricultural Science

Prepare to shape the future of agriculture and tackle global challenges. Gain the expertise to improve the productivity, competitiveness and sustainability of agricultural practices.

Why study Agricultural Science at UQ?

At UQ you will learn from world-leading academics with an active research focus and strong industry connections. Learn to apply and integrate the scientific, technological, managerial, economic and social principles of agriculture. Improve livestock and cropping outcomes for small-, medium- and large-scale farming operations.

Enhance your technical skills with an optional 120-hour practical industry placement. Build your knowledge of the current and emerging trends in agricultural innovation. Graduate with a globally respected work-ready qualification. Or undertake an extra honours year where you will complete an independent research project on a topic of your interest, while also acquiring skills in research methodologies, leadership and research communication. You’ll have access to some of the best animal and veterinary facilities in the southern hemisphere as well as research greenhouses, a nursery and more than 1000 hectares of farmland.

What you will study

Gain a strong understanding of the complexity of the agricultural sector and then customise your study to suit your interest in one of three majors:

**Agronomy**

Focus on both intensive and broadacre production of a range of agricultural crops including cereals, grains, pulses, cotton and sugar cane. Learn to manage the environmental and agricultural practices to control plant growth and the crop production cycle. Combine your studies across biology, chemistry, ecology and earth sciences, or genetics. Use strategies such as crop rotation, irrigation and nutrient management, and the control of weeds, insects and other pests, to manage the whole cycle.

**Animal Science**

Learn to use the latest technology to ensure sustainable beef, dairy, poultry, sheep, goat and pig production. Study animal nutrition, reproduction, animal health, animal breeding and genetics, animal behaviour, microbiology, anatomy and physiology, biochemistry and pasture science. Your practical classes will access some of the best animal science and research facilities in the southern hemisphere.

**Horticulture**

Focus on the intensive production of fruit, vegetable, nursery and floricultural crops. Discover how to use postharvest techniques to extend the shelf life of highly perishable crops. Learn to improve plant yield, quality and nutritional value. Increase their resistance to insects, diseases and environmental stresses with plant breeding, biochemistry, physiology and propagation techniques.

Or combine any two of these areas to become a broadacre farming specialist.

Double your opportunities

Broaden your skills with a dual program. You can combine your Bachelor of Agricultural Science with a Bachelor of Agribusiness to gain business skills and integrate the science and business of agriculture.

Careers

Graduates are able to work in local, national and international organisations or governments as animal scientists, agronomists, horticulturalists, geneticists, soil scientists or agricultural consultants. Other graduates find work as extension or inspection officers, or as advisers for producers.

**SAMPLE COURSES**

**General**

Biological Concepts and Plant Science
Applied Mathematics and Statistics
Agricultural Biochemistry
Elements of Ecology
The Soil Environment
Sustainable Agricultural and Animal Systems

**Agronomy**

Plant Production Principles and Technologies
Crop Physiology
Plant and Environmental Health
Plant Physiology

**Animal Science**

Animal Breeding and Genetics
Animal Nutrition and Technology
Monogastric Production Systems
Pasture Science and Management

**Horticulture**

Horticultural Science
Plant Production Principles and Technologies
Production Horticulture
Soil Plant Relationships

For more information [future-students.uq.edu.au](https://future-students.uq.edu.au) [science.uq.edu.au/planner]
Bachelor of Biomedical Science

Study the latest in globally relevant biomedical practices and gain the theoretical and hands-on skills to prepare yourself for a dynamic career in an industry that’s making incredible advances in modern medical science.

**Why Biomedical Science at UQ?**

Biomedical scientists assist in developing treatments for diseases. They carry out clinical tests, check the effectiveness of treatments, and research the causes and cures for diseases.

You'll learn from leading UQ researchers at the forefront of developments in biomedical science. Integrate your interdisciplinary studies into a well-grounded and wide-ranging knowledge of this field.

**What you will study**

During your first two years, you will broadly cover the fields of molecular and cellular biology through to whole-body systems. Learn the scientific process by experimental design, hands-on experiments and computer modelling. In your third year choose to specialise in one or more areas of study.

**Your areas of study**

Courses focusing on molecular and cellular biology

**Biochemistry and Molecular Biology**

Gain the research tools to address questions on how cells divide, grow, communicate and die. Understand the structure, function and interactions of nucleic acids, proteins, carbohydrates and lipids, and their contribution to cellular activities and processes.

**Developmental Biology**

Learn how organisms and cells grow and develop organs and tissues using their genetic blueprint and environmental influences. This is central to understanding the basis of human health and disease.

**Human Genetics**

Use essential statistical and mathematical skills to study the human genome. Contribute to the ethical debate on the use of genetic information and be part of future discoveries.

**Immunology and Infectious Diseases**

Examine the principles of immunological responses to infectious diseases. Study the biology of microbes such as bacteria, fungi and viruses to understand the development of new vaccines and therapeutic treatments.

**Neuroscience**

Study the nervous system, which integrates the processing and coordination of sensory information and motor commands. Discover how neuroscience and neural stem cells are being used to treat neurological and mental illnesses.

**Pharmacology**

Learn how drugs impact the functioning of the human body. Explore how pharmacologists are improving disease therapies through the development of new drugs or better use of existing drugs.

**Physiology**

Investigate normal body processes and the changes occurring in disease. Apply your knowledge at the molecular and cellular levels to understand the integrative control of tissues, organs and systems.

**Practical experience**

For more than half of your program, apply your theory through practical laboratory-based experiments.

**Careers**

Find a career in hospital and diagnostic clinical laboratories, biotechnology and pharmaceutical companies, laboratory positions in molecular and cellular biology, health policy, and communication in government or advisory organisations. This degree is an excellent pathway into postgraduate health programs, including the Doctor of Medicine.

**SAMPLE COURSES**

- Analysis of Scientific Data
- Biochemistry and Molecular Biology
- Structural and Synthetic Biology
- Developmental Neurobiology
- Immunology
- Drug Design and Development
- Genetics
- Human Anatomy
- Integrated Endocrinology
- Microbiology and Immunology

For more information, visit future-students.uq.edu.au/science.uq.edu.au/planner

See also information on the Biomedical Science major in the Bachelor of Science on page 26.
Bachelor of Biotechnology

Biotechnology is a creative entrepreneurial field, where scientists design innovative products and technologies, pioneering new frontiers in health, agriculture, science, engineering – and beyond.

Why Biotechnology at UQ?

Biotechnology creates products to improve the world we live in. The scope of biotechnology innovations is only limited by our imaginations. Current applications of medical biotechnology include the rapid diagnosis and treatment of diseases (such as COVID-19), smart medical devices, and the creation of biomaterials for tissue and organ replacement. Agricultural biotechnologies are applied globally to plants and animals to improve yield, nutritional content, pest/disease resistance, and tolerance to extreme conditions. Emerging innovations also include the use of microorganisms to clean up oil spills, degrade plastics or extract metals; the industrial production of biologics; and production of cultured foods.

Set yourself up for a career in research or industry with advanced skills in biotechnology. At UQ, you will learn from Australia’s leading educators in biotechnology. Whether your interest is in biology, chemistry or engineering, you will build strong foundations in core scientific concepts and learn how to translate this knowledge into biotechnology products and services.

What you will study

Gain a fundamental understanding of key concepts in molecular genetics, bioinformatics, microbiology, immunology, biochemistry, cells and genes. Study chemistry, engineering, mathematics and other essential disciplines to better understand the biotechnology sector. You will gain core technical skills and learn commercial, regulatory and intellectual property concepts critical in the development of new biotechnology products. Combine your scientific skills with business knowledge to manage commercial outcomes from biotechnology research. Undertake extensive, hands-on laboratory experience and build your practical product development skills in specialist facilities. At the end of your third year, choose to add an optional research year at honours level or enter the master’s program. Undertake a research focus that addresses both fundamental and applied technical issues. Or choose a business or entrepreneurship focus for a career in new product development.

Extended majors

• Agricultural Biotechnology
• Chemical and Nano Biotechnology
• Medical Biotechnology
• Molecular and Microbial Biotechnology
• Synthetic Biology and Industrial Biotechnology

Minors

• Bioinformatics
• Innovation and Entrepreneurship

Careers

Your advanced knowledge and technical skills are relevant to a range of modern biotechnologies and in demand globally. You will find careers in many industrial, government and service sectors, including health, agriculture, production, law and commerce. Employment is also available in research organisations and startup ventures. This degree is an excellent pathway into postgraduate programs, including the Doctor of Medicine.

SAMPLE COURSES

Bioinformatics 1: Introduction
Entrepreneurial Growth Strategies
Biostatistics and Experimental Design
Plant Biology and Biotechnology
Genomics and Evolution of Complex Traits
Microbiology and Immunology
Food Microbiology
Issues in Biotechnology
Medical and Biological Chemistry
Chemical Biology
Commercialisation of Biotechnology Products
Biochemistry and Molecular Biology
Genetics
Mathematical Biology
Experimental Pharmacology
Drug Design and Development
Plant Biology

For more information
future-students.uq.edu.au/science.uq.edu.au/planner

See 'Program table explained' on page 10

* Minimum (adjusted) selection threshold 2022 is the minimum score that was considered for an offer of a place to all applicants.
* Lowest ATAR to receive an offer refers to all recent secondary students who were offered a place for Semester 1, 2022. The lowest ATAR (Adjusted) refers to the ATAR plus any adjustment factors. The Lowest ATAR (Unadjusted) refers to the lowest ATAR excluding any adjustment factors.
Bachelor of Environmental Management (Honours)

Discover how to critically assess the causes of environmental problems as you build your knowledge and skills in developing and managing solutions that address the many environmental challenges facing the world.

Why Environmental Management (Honours) at UQ?
Learn from UQ’s experts how to manage local to global environmental challenges. Gain the skills to address the sustainability issues that span natural through to urban environments. Build a foundation in environmental sciences with the added focus on social and economic disciplines, decision-making, problem-solving and policy analysis.

What you will study
In your first two years of study, develop your understanding of the natural sciences. Learn the techniques and approaches to integrate biophysical, social, cultural, economic, legal and management factors. During your third year, undertake a two-week field trip to investigate environmental management practices in a variety of contexts. Complete an industry placement to refine your understanding and skills in environmental management. In your final capstone year, undertake an in-depth research project or industry case study project in conjunction with an external client. You’ll apply your knowledge and skills to a real environmental issue.

During your studies you’ll learn scientific, social, economic and managerial strategies to improve environmental performance across all of society’s activities. You will identify ways to reduce or eliminate existing and potential environmental concerns.

Develop your multidisciplinary skills in environmental management, decision-making and problem-solving across urban, industrial and rural environments.

Learn strategies to tackle complex global issues like climate change, pollution and land clearing. You’ll discover how to critically assess the causes of environmental problems and develop better ways of managing and solving them.

Placements and practical experience
In your third year, complete a full semester of industry placement and practical experience. Network with practitioners in government and industry as you undertake a supervised project and complete your industry placement program. In your final year, conduct an in-depth research project or case study in conjunction with an external industry client.

Fieldwork
You’ll be able to undertake field trips to a diverse range of environments including regional Queensland and international locations. In your third year apply your knowledge and skills during a compulsory two-week field trip to observe environmental management in practice. Connect with potential employers and gain hands-on, practical skills valued highly by industry.

Careers
You’ll be prepared for employment in managerial, research, administrative and education roles. Employers include consultancies, mining companies, government departments, landcare and catchment management groups, and national and international non-government organisations.

Opportunities are available in a variety of sectors, including:
- national parks and wildlife conservation
- sustainability advising
- environmental assessment and compliance
- natural resource management
- policy development
- government and commercial consultancies in environmental planning and management
- mining and resources industry
- environmental tourism
- environmental management.

SAMPLE COURSES
- Carbon and Energy Management
- Cultural Heritage Management
- Sustainable Business Practice
- Environment and Society
- Environmental Impact Assessment
- Environmental Problem Solving
- Geographical Information Systems
- Climate Change and Environmental Management
- Conservation Policy

For more information future-students.uq.edu.au science.uq.edu.au/planner

#1 in Australia for environmental sciences
QS World University Rankings by Subject 2021

<table>
<thead>
<tr>
<th>QTAC CODE</th>
<th>UQ CODE</th>
<th>MINIMUM SELECTION THRESHOLD 2022*</th>
<th>LOWEST ATAR TO RECEIVE AN OFFER 2022*</th>
<th>DURATION</th>
<th>START SEMESTER</th>
<th>CAMPUS</th>
<th>HONOURS</th>
<th>ADMISSION REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>705101</td>
<td>2376</td>
<td>80.00 / 29</td>
<td>80.30 / 80.30</td>
<td>4 years full-time (or part-time equivalent)</td>
<td>1, 2</td>
<td>St Lucia</td>
<td>Part of standard program, awarded based on cumulative weighted grade point average</td>
<td>Queensland Year 12 (or equivalent) English (Units 5 &amp; 4, C)</td>
</tr>
</tbody>
</table>

* Minimum (adjusted) selection threshold 2022 is the minimum score that was considered for an offer of a place to all applicants.
* Lowest ATAR to receive an offer refers to all recent secondary students who were offered a place for Semester 1, 2022. The lowest ATAR (Adjusted) refers to the ATAR plus any adjustment factors. The Lowest ATAR (Unadjusted) refers to the lowest ATAR excluding any adjustment factors.
Why Environmental Science at UQ?
Study at Australia’s most highly ranked university for research in environmental sciences. Expand your employment horizons with UQ’s local, national and global networks. Become a skilled environmental scientist and understand the impacts of climate change. You’ll learn to devise strategies to improve sustainability. Be equipped to manage ecosystems, preserve global biodiversity, and secure clean water and food resources. Help identify, develop and implement solutions to the many environmental challenges facing society from diminishing natural resources to degradation of environments.

What you will study
Study core and advanced science and regulatory topics to understand and manage the changing planet. Learn to describe, monitor and predict environmental processes. Examine the effects of human activity on physical and biological environments. Gain scientific knowledge and practical experience in ecology, environmental toxicology, omics, natural resources and data science. Participate in extensive, practical field-based experiences and learn strategies to minimise conflict between growth, development and the environment.

You can choose to pursue a research career by undertaking an additional research honours year, which could lead to postgraduate studies.

Placement and practical experience
Undertake extensive practical experience to develop your skills to deliver a range of environmental strategies, solutions and programs. You will participate in excursions, field-based activities and research opportunities in diverse subtropical and tropical ecosystems including World Heritage rainforests, the Great Barrier Reef, North Stradbroke Island (Minjerribah) and outback Australia.

Careers
Find employment in organisations undertaking environmental monitoring, impact assessment and management, policy development in government agencies, mining, environmental tourism, sustainability advice and natural resource management, teaching, or research.

Global Challenges in Biology
Chemistry
Environment and Society
Genes, Cells and Evolution
Planet Earth: The Big Picture
Analysis of Scientific Data
Biostatistics and Experimental Design
The Soil Environment
Aquatic Environments
Environmental Impact Assessment
Environmental Omics
Landscape Ecology
Pollution Science
Environmental Science Project
Environmental Geochemistry
Ecological Economics
Carbon and Energy Management
Living Oceans
Geographical Information Systems
Ecology
Ecology Field Studies
Experimental Chemistry
Foundations of Sustainable Development
Introduction to Earth Observation Sciences (EOS)
Bioinformatics
Biogeography and Geomorphology
Conservation
Spatial Analysis and Modelling
Climatology and Hydrology
Geospatial Processing and Web mapping

For more information
future-students.uq.edu.au
science.uq.edu.au/planner

#17 in the world for environmental sciences
QS World University Rankings by Subject 2021

Bachelor of Environmental Science

Equip yourself with the knowledge and skills to understand the impacts of climate change and devise strategies to improve sustainability, manage ecosystems and preserve global biodiversity, clean water and food.
Why Equine Science at UQ?
Study the scientific and practical aspects of the fast-growing global equine industry. You will learn from UQ’s internationally regarded equine academic staff. Gain and apply the skills to improve outcomes for horses, riders and the equine industry.

Our equine unit at the Gatton campus includes breeding and horse-handling facilities, day yards and stabling amenities.

What you will study
In your first year you’ll build a strong understanding of animal biology, structure and function, as well as chemistry. In your second and third years, specialise in agricultural biochemistry, microbiology and its relationship to health and disease, horse behaviour, physiology, biomechanics, breeding, nutritional physiology and diet.

During the program, choose from a range of electives. These will broaden your knowledge in agribusiness, biosecurity, pasture and production courses. You will graduate with the scientific knowledge and practical skills required in the equine industry to improve the management, performance and welfare of all horses.

Placements and practical experience
During your studies you will work extensively with horses from the UQ Australian Stock Horse stud and UQ’s expert instructors and lecturers. Choose to participate in a three-week tour of equine and production animal facilities in Kentucky and Texas, USA. Further hands-on training is available by including a vocational program with your studies or with extended industry placements.

Get additional skills
Broaden your skills by concurrently enrolling in the Certificate III in Rural Operations or the Farm Ready Program through UQ Skills (details available at skills-training.uq.edu.au/programs).

Careers
As an equine specialist, you will establish a career in:
- equine enterprise management
- agribusiness firms servicing the equine industry
- animal nutrition and animal health companies
- bloodstock agencies
- breed societies, equestrian centres and riding schools
- equine industry organisations and educational institutions
- equine journalism
- horse studs
- preconditioning and training businesses
- racing and competition stables
- sales and marketing
- statutory bodies administering racing and trotting.

You can also choose to pursue a research career by undertaking a research honours year, which could lead to postgraduate studies.

### Why choose UQ for Equine Science?
- **Global equine industry**: You’ll gain the skills needed to work in the fast-growing global equine industry.
- **World-class facilities**: You’ll have access to state-of-the-art facilities at our Gatton campus.
- **Expertise**: Our faculty includes internationally regarded equine academic staff.
- **Practical experience**: You’ll gain hands-on experience through placements and industry tours.

### SAMPLE COURSES
- **Samples of equine courses**
  - Fundamentals of Equine Science
  - Equine Behaviour and Performance
  - Equine Breeding and Stud Management
  - Equine Exercise and Rehabilitation
  - Equine Nutrition and Health

- **Samples of other courses**
  - Agricultural Microbiology and Gene Technology
  - Applied Animal Physiology
  - Animal Breeding and Genetics
  - Animal Health and Epidemiology
  - Animal Nutrition and Technology
  - Animal Reproduction
  - Pasture Science and Management
  - Sustainable Agricultural and Animal Systems

For more information future-students.uq.edu.au science.uq.edu.au/planner
Bachelor of Mathematics

Study advanced mathematics and gain the foundation for a rewarding career. Hone your skills in areas that are in demand in today’s data-driven economy.

Why Mathematics at UQ?

Develop your skills and knowledge with modelling and computer technology. Learn to solve problems in the physical and biological sciences, engineering, information technology, economics and business.

UQ’s mathematics research and industry networks will widen your career options and help you gain the training that will set you apart in the job market now and in the future.

Choose from more than 60 mathematics and statistics courses – more than any other Queensland university.

What you will study

You will gain quantitative and analytical skills and a solid foundation in calculus, linear algebra, discrete mathematics, mathematical analysis, as well as modelling and mathematical programming. You will explore advanced problem-solving and logical thinking, communication systems, data handling and interpretation, and research. Deepen your knowledge of mathematical topics. Develop your conceptual ability and the sophisticated skills to apply mathematics across a variety of fields and industries. Gain the specialist expertise to stand out in the job market.

Specialise your studies with a major, or diversify your studies with a minor in bioinformatics, computational science, computer science, physics or statistics. Or broaden your options in a dual program and graduate with two degrees with only one extra year of study. Choose from eight dual program combinations.

Majors

Applied Mathematics
Build your foundational knowledge in applied mathematical analysis, mathematical modelling and numerical simulation techniques. Apply your expertise in areas such as natural resources and environmental modelling, biological science and engineering.

Data Analytics and Operations Research
Develop skills in analysing large and complex data sets. Learn how to make effective decisions using optimisation techniques in financial services, logistics, engineering, science and research.

Mathematical Physics
Explore the mathematical foundations of modern physics theories. Gain a mathematical understanding of contemporary science, including statistical mechanics, relativity theory and quantum physics.

Pure Mathematics
Examine the intrinsic nature and fundamental properties of mathematical concepts. Expand your appreciation of the ubiquity, universality and beauty of mathematics while developing high-level skills in critical, analytical and abstract thinking.

Statistics
Acquire the mathematical foundations and techniques necessary to understand and deal with chance and uncertainty through the design, collection, analysis and interpretation of data. Explore applications and the mathematical foundations of machine learning.

Placements and practical experience

Undertake a summer research project or internship through the School of Mathematics and Physics. Undergraduate research scholarships are available through UQ and some industry groups.

Careers

Demand for quantitatively trained graduates is at an all-time high. You’ll find opportunities in roles such as data, production bioinformatics or software engineer, research engineering lead, quantitative analyst, materials scientist, data analyst, cryptographer, risk modeller or research mathematician.

Sample courses

- Applied Mathematics
- Mathematical Biology
- Scientific Computing
- Data Analytics and Operations Research
- Mathematical Statistics
- Operations Research and Mathematical Planning
- Mathematical Physics
- Algebraic Methods of Mathematical Physics
- Abstract Algebra and Number Theory
- Pure Mathematics
- Functional Analysis
- Abstract Algebra and Number Theory
- Statistics
- Statistical Modelling and Analysis
- Deep Learning

For more information:
future-students.uq.edu.au
science.uq.edu.au/planner
Why Occupational Health and Safety Science (Honours) at UQ?

This unique program combines studies of health, psychology, law, ethics and management with practical skills gained through placements, worksite visits and industry experience. You’ll learn scientific approaches to identifying, assessing and controlling chemical, physical and biological hazards. You’ll also learn about psychosocial health factors like stress, bullying, harassment and fatigue. With these key skills, you can monitor and modify work environments. You will be able to deliver education programs, analyse workplace data, and devise, evaluate and implement OHS management systems.

Careers

OHS professionals with sound scientific knowledge are in short supply and high demand. You will be ready to work in remote, rural or urban regions in government, consultancy or the private sector. You will work in sectors such as mining, agriculture, retail, hospitality, construction, transport, manufacturing, leisure, tourism and healthcare. OHS roles can offer mentoring by senior OHS staff, travel within Australia and overseas, and hands-on experience across the full range of OHS issues.

What you will study

You will study occupational hygiene, ergonomics, occupational health, safety science and risk management. Your first year of study will incorporate a strong basis in the foundation sciences as well as interaction with OHS professionals. Your second, third and fourth years will focus on core OHS areas of occupational health, ergonomics, safety science, occupational hygiene, and management, law, ethics and aspects of the environment.

Placements and practical experience

In your final year, you will complete a minimum of 480 hours of placement with one or two industry partners. This ensures that you are qualified and prepared to enter the workforce with diverse employment opportunities. Employers worldwide will recognise your skills and practical knowledge.

For more information future-students.uq.edu.au science.uq.edu.au/planner
Why Science at UQ?
UQ’s Bachelor of Science (BSc) will give you the perfect balance of a defined sequence of study combined with flexible course options. Choose from 16 extended majors, 24 majors and 32 minors, which allow you to study an extensive range of science courses supported by innovative research.

Graduate with superior technical skills, and advanced independent thinking and communication skills. Use this range of courses to tailor the program to your individual interests and career goals.

Select course combinations from science and non-science disciplines in your first year, then in your second and third years focus on one or two specialist areas (majors or minors) to deepen your knowledge.

Alternatively, follow your curiosity outside the world of science. Combine your science expertise with a choice of 46 minors in languages, communication, design or economics.

Or improve your employment prospects and broaden your skills and knowledge by combining your degree with one of 13 other UQ programs, including law, education, arts, engineering or business management.

You’ll learn how to work confidently in a range of labs, including wet, dry and clinical labs, PC2 and PC3 labs, and animal diagnostic, operating and skills-training labs. Some majors offer fieldwork opportunities in locations such as the Great Barrier Reef, Fraser Island, national parks and outback Queensland. You’ll also have the chance to gain relevant, real-world experience through employability and work integrated learning such as internships, industry placements, research projects and international study.

UQ’s Bachelor of Science is a widely respected and globally recognised qualification. You’ll graduate with highly developed knowledge in your specialist area, superior technical abilities, and advanced independent thinking and communication skills.

Bachelor of Science with honours
As you near the end of your BSc, you may consider applying for an honours program. Honours is an additional year of study that is essentially a research apprenticeship for a young scientist. You will work under the guidance of a researcher on a specific project, and learn about the research environment, how to perform critical experiments and analyse data, and how to communicate and present your results.

UQ Bachelor of Science (Honours) graduates are in high demand by employers due to their ability to work independently.

An honours program can also open up pathways to further research and postgraduate study options.

For more information future-students.uq.edu.au science.uq.edu.au/planner

See ‘Program table explained’ on page 10

Minimum (adjusted) selection threshold 2022 is the minimum score that was considered for an offer of a place to all applicants.

Lowest ATAR to receive an offer refers to all recent secondary students who were offered a place for Semester 1, 2022. The lowest ATAR (Adjusted) refers to the ATAR plus any adjustment factors. The Lowest ATAR (Unadjusted) refers to the lowest ATAR excluding any adjustment factors.
Double your opportunities

Improve your employment prospects and broaden your skills and knowledge by studying two programs at the same time.

As the world around you changes, new and fascinating career opportunities are created every day, and job roles increasingly combine multiple disciplines.

A dual program, also called a double degree, will equip you for this evolving job market. It gives you the flexibility to study two different disciplines in a much shorter time, by studying only the mandatory courses for each program with fewer or no electives.

BSc + another bachelor’s degree

Enrol in a dual program to complete two degrees in a shorter time than completing each program separately. You will have the flexibility to study two areas of interest at once, extend your knowledge and skills to broaden your career opportunities, and gain a competitive employment edge.

Applying for a dual program

Dual programs at UQ have unique program codes, and you must satisfy prerequisite and entry score requirements. Domestic applicants must apply through the normal QTAC application process. International applicants should visit future-students.uq.edu.au for application details.

Transferring to a dual program

Once you have started your BSc, you can transfer to a dual program by requesting a program change or applying through QTAC. Faculty of Science academic advisers can provide further information about the best options to suit your individual needs.

Study a Bachelor of Science in combination with:

• Arts
• Biomedical Science
• Business Management
• Commerce
• Computer Science
• Economics
• Education (Secondary)
• Engineering (Honours)
• Information Technology
• Journalism
• Laws (Honours)
• Mathematics
• Music (Honours).

Save time

Graduate with two bachelor’s degrees in as little as four years – a much shorter time than it would take to study both programs separately.

Strike a balance

Why compromise? Get study/life balance by combining programs that cover career aspirations and topics you’re passionate about. Dual program students appreciate the diversity offered in their two different programs.

13 science dual program combinations available

<table>
<thead>
<tr>
<th>QTAC CODE</th>
<th>DURATION (YEARS)</th>
<th>MINIMUM SELECTION THRESHOLD 2022* ATAR / IB</th>
<th>LOWEST ATAR TO RECEIVE AN OFFER 2022* ADJUSTED</th>
<th>UNADJUSTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomedical Science / Science (BMedSci/BSc)</td>
<td>73121</td>
<td>4</td>
<td>85.00 / 31</td>
<td>86.50</td>
</tr>
<tr>
<td>Business Management / Science (BBusMan/BSc)</td>
<td>710501</td>
<td>4</td>
<td>80.00 / 29</td>
<td>81.85</td>
</tr>
<tr>
<td>Commerce / Science (BCom/BSc)</td>
<td>711701</td>
<td>4</td>
<td>85.00 / 31</td>
<td>85.85</td>
</tr>
<tr>
<td>Computer Science / Science (BCompSc/BSc)</td>
<td>733601</td>
<td>4</td>
<td>86.00 / 32</td>
<td>90.15</td>
</tr>
<tr>
<td>Economics / Science (BEcon/BSc)</td>
<td>714301</td>
<td>4</td>
<td>85.00 / 31</td>
<td>89.40</td>
</tr>
<tr>
<td>Engineering (Hons) / Science (BE(Hons)/BSc)</td>
<td>717101</td>
<td>5</td>
<td>86.00 / 32</td>
<td>86.30</td>
</tr>
<tr>
<td>Information Technology / Science (BInfTech/BSc)</td>
<td>733301</td>
<td>4</td>
<td>86.00 / 32</td>
<td>86.80</td>
</tr>
<tr>
<td>Mathematics / Science (BMath/BSc)</td>
<td>714901</td>
<td>4</td>
<td>86.00 / 32</td>
<td>93.40</td>
</tr>
<tr>
<td>Music (Honours) / Science (BMus(Hons)/BSc)</td>
<td>723402</td>
<td>5</td>
<td>80.00 / 29</td>
<td>83.15</td>
</tr>
<tr>
<td>Science / Arts (BSc/BA)</td>
<td>731501</td>
<td>4</td>
<td>80.00 / 29</td>
<td>83.00</td>
</tr>
<tr>
<td>Science / Education (Secondary) (BSc/BEd(Sci))</td>
<td>731502</td>
<td>4</td>
<td>80.00 / 29</td>
<td>80.85</td>
</tr>
<tr>
<td>Science / Journalism (BSc/BJ)</td>
<td>713602</td>
<td>4</td>
<td>80.00 / 29</td>
<td>96.35</td>
</tr>
<tr>
<td>Science / Laws (Hons) (BSc/LLB(Hons))</td>
<td>731401</td>
<td>5</td>
<td>98.00 / 41</td>
<td>98.00</td>
</tr>
</tbody>
</table>

* Minimum (adjusted) selection threshold 2022 is the minimum score that was considered for an offer of a place to all applicants.

* Lowest ATAR to receive an offer refers to all recent secondary students who were offered a place for Semester 1, 2022. The lowest ATAR (Adjusted) refers to the ATAR plus any adjustment factors. The Lowest ATAR (Unadjusted) refers to the lowest ATAR excluding any adjustment factors.

* Students may take the program on a part-time basis, but the final year must be commenced in Semester 1 and must be taken on a full-time basis.

* Selection based on audition, interview and academic results.
Using the BSc as your pathway

The BSc is popular both as a pathway to Medicine, or as a way to improve your entry rank for programs such as Engineering, Veterinary Science or Pharmacy.

UQ’s BSc program is recognised as excellent preparation for studying Medicine and to advance into a medical career. Alternatively, it offers a pathway to improve your entry rank for programs such as Engineering, Veterinary Science or Pharmacy. By completing a year of full-time study in the BSc, you can use your level of achievement at university (your grade point average or GPA) as a way to meet the higher entry requirements of other programs. In some cases, you may gain credit into your new program for courses completed in the BSc. If you are planning to use the BSc to improve your entry rank, you should always seek advice on the GPA required to allow you to transfer into your chosen program, as entry into some programs – particularly in the health sciences and veterinary science – is very competitive. See your academic adviser early in your studies so they can help you keep all your options open and carefully plan your first year to make sure that, if you are unsuccessful in transferring to your chosen program, you can still continue in the BSc.

BSc majors and minors

How do I choose an area of specialisation in the BSc?

In the BSc, you will complete a specialisation – whether it is a major, an extended major or a major in combination with minors – in your chosen area of science. Tailor your BSc study plan according to your interests and explore the flexibility to incorporate up to one-third of your courses from other UQ programs.

Bachelor of Science specialisation plans

Some possible combinations include:

- one major
- one major + one minor
- one major + two minors
- two majors
- one extended major
- one extended major + one minor.

Additional plan combinations may be available. To see how to structure your Bachelor of Science, visit planner.science.uq.edu.au/undergraduate/bachelor-science

What is the difference between a major and an extended major?

A major is an area of specialisation focusing on a single discipline within a program. For example, Chemistry is a major within the Bachelor of Science. An extended major is similar to a major but contains more courses and provides greater depth in that area of study.

Extended majors, majors and minors

- Applied Mathematics
- Archaeological Science
- Astrophysics
- Biochemistry and Molecular Biology
- Bioinformatics
- Biomedical Science
- Biophysics
- Cell Biology
- Chemical Biology
- Chemistry
- Coastal and Ocean Science
- Computational Science
- Computer Science
- Developmental Biology
- Earth Science
- Ecology and Conservation Biology
- Entomology
- Food Science and Nutrition
- Food Technology
- Genetics
- Geographical Science
- Geographical Information Science
- Human Anatomy
- Human Physiology
- Immunology
- Marine Biology
- Mathematics
- Microbiology
- Microbiology, Infection and Immunity
- Neuroscience
- Pharmacology
- Physics
- Plant Science
- Psychology
- Public Health
- Statistics
- Zoology

Details of Bachelor of Science (BSc) extended majors, majors and minors are outlined on the following pages.
What you will study

Learn how advanced mathematical methods are used to develop creative and practical solutions in a variety of real-world contexts. Build your foundational knowledge in applied mathematical analysis, mathematical modelling and the numerical methods used in computational science. Apply your expertise to current scenarios in optimal planning as well as to the modelling of natural resources, biological science and engineering applications. Choose from over 60 courses in mathematics and statistics, and gain valuable, practical experience through industry placements and work integrated learning opportunities, where you can develop your technical skills and build your employment networks.

Careers

Demand for quantitatively trained graduates is high. Your excellent problem-solving abilities open opportunities in sectors such as finance, economics, mathematical research, statistics, actuarial studies, information technology, data science and teaching.

Be employed as a quantitative researcher, data engineer, financial analyst, data scientist or algorithm specialist, or as a mathematical modeller, for instance, in aquaculture, or algorithm specialist, or as a mathematical data engineer, financial analyst, data scientist.

Wildlife conservation, retail, healthcare, telecommunications, software development, computer programming, and roles in the fields of meteorology, environmental engineering, and natural resource management.

The Bachelor of Science (BSc) extended majors, majors, minors is designed to give you a broad understanding of the scientific world and how it applies to the modern world. You will gain the opportunity to learn and pursue a variety of projects, gaining practical experience in fields such as data science, mathematical analysis, and environmental science.

If you are interested in pursuing a career in a field that requires a strong foundation in science and mathematics, this degree is perfect for you. You will have the chance to develop your technical skills and build your employment networks.

Careers

Demand for quantitatively trained graduates is high. Your excellent problem-solving abilities open opportunities in sectors such as finance, economics, mathematical research, statistics, actuarial studies, information technology, data science and teaching.

Be employed as a quantitative researcher, data engineer, financial analyst, data scientist or algorithm specialist, or as a mathematical modeller, for instance, in aquaculture, or algorithm specialist, or as a mathematical data engineer, financial analyst, data scientist.

Wildlife conservation, retail, healthcare, telecommunications, software development, computer programming, and roles in the fields of meteorology, environmental engineering, and natural resource management.

The Bachelor of Science (BSc) extended majors, majors, minors is designed to give you a broad understanding of the scientific world and how it applies to the modern world. You will gain the opportunity to learn and pursue a variety of projects, gaining practical experience in fields such as data science, mathematical analysis, and environmental science.

If you are interested in pursuing a career in a field that requires a strong foundation in science and mathematics, this degree is perfect for you. You will have the chance to develop your technical skills and build your employment networks.

Careers

Demand for quantitatively trained graduates is high. Your excellent problem-solving abilities open opportunities in sectors such as finance, economics, mathematical research, statistics, actuarial studies, information technology, data science and teaching.

Be employed as a quantitative researcher, data engineer, financial analyst, data scientist or algorithm specialist, or as a mathematical modeller, for instance, in aquaculture, or algorithm specialist, or as a mathematical data engineer, financial analyst, data scientist.

Wildlife conservation, retail, healthcare, telecommunications, software development, computer programming, and roles in the fields of meteorology, environmental engineering, and natural resource management.

The Bachelor of Science (BSc) extended majors, majors, minors is designed to give you a broad understanding of the scientific world and how it applies to the modern world. You will gain the opportunity to learn and pursue a variety of projects, gaining practical experience in fields such as data science, mathematical analysis, and environmental science.

If you are interested in pursuing a career in a field that requires a strong foundation in science and mathematics, this degree is perfect for you. You will have the chance to develop your technical skills and build your employment networks.

Careers

Demand for quantitatively trained graduates is high. Your excellent problem-solving abilities open opportunities in sectors such as finance, economics, mathematical research, statistics, actuarial studies, information technology, data science and teaching.

Be employed as a quantitative researcher, data engineer, financial analyst, data scientist or algorithm specialist, or as a mathematical modeller, for instance, in aquaculture, or algorithm specialist, or as a mathematical data engineer, financial analyst, data scientist.

Wildlife conservation, retail, healthcare, telecommunications, software development, computer programming, and roles in the fields of meteorology, environmental engineering, and natural resource management.

The Bachelor of Science (BSc) extended majors, majors, minors is designed to give you a broad understanding of the scientific world and how it applies to the modern world. You will gain the opportunity to learn and pursue a variety of projects, gaining practical experience in fields such as data science, mathematical analysis, and environmental science.

If you are interested in pursuing a career in a field that requires a strong foundation in science and mathematics, this degree is perfect for you. You will have the chance to develop your technical skills and build your employment networks.

Careers

Demand for quantitatively trained graduates is high. Your excellent problem-solving abilities open opportunities in sectors such as finance, economics, mathematical research, statistics, actuarial studies, information technology, data science and teaching.

Be employed as a quantitative researcher, data engineer, financial analyst, data scientist or algorithm specialist, or as a mathematical modeller, for instance, in aquaculture, or algorithm specialist, or as a mathematical data engineer, financial analyst, data scientist.

Wildlife conservation, retail, healthcare, telecommunications, software development, computer programming, and roles in the fields of meteorology, environmental engineering, and natural resource management.

The Bachelor of Science (BSc) extended majors, majors, minors is designed to give you a broad understanding of the scientific world and how it applies to the modern world. You will gain the opportunity to learn and pursue a variety of projects, gaining practical experience in fields such as data science, mathematical analysis, and environmental science.

If you are interested in pursuing a career in a field that requires a strong foundation in science and mathematics, this degree is perfect for you. You will have the chance to develop your technical skills and build your employment networks.
BIOCHEMISTRY AND MOLECULAR BIOLOGY

What you will study
This hands-on, investigatory, creative and foundational science forms the basis of how we understand all living systems. You’ll study the molecules, systems and chemical processes that make life possible. Discover what drives current research into vaccines and causes of life-threatening diseases. Explore the latest applications in eco-friendly industrial processes, agriculture and sustainable food production. Visualise the future in synthetic biology, biotechnology, proteomics, genomics, bioinformatics, genetic engineering and drug design. Your award-winning lecturers are experts who will help you understand and use the latest scientific and industry tools through extensive practical laboratory experience, structured tutorials and specialised seminars.

Careers
Work in the agriculture, health, biotechnology or environmental sectors. You’ll find employment as a research biochemist or molecular biologist in pharmaceutical development laboratories in universities, research institutes and companies trying to understand cellular processes, investigating diseases affecting animals and plants, or searching for new biological tools.

SAMPLE COURSES
- Genes, Cells and Evolution
- Biochemistry and Molecular Biology
- Genetics
- Molecular Cell Biology
- Chemical Biology
- Structural and Synthetic Biology
- Biochemistry of Metabolism in Health and Disease
- Frontiers in Biophysics
- Molecular Systems Biology
- Human Molecular Genetics in Health and Disease
- Biostatistics and Experimental Design

BIOINFORMATICS

What you will study
Apply scientific expertise and technical skills to translate complex biological data into meaningful information. Study bioinformatics to develop your knowledge in computer science, genomics, proteomics and molecular biology. Gain skills in machine learning, statistics and specialised knowledge in data management. Learn to apply this knowledge to new innovations or discoveries. Equip yourself for a career in computational modelling and intelligent systems involving big data. Focus on either the computational concepts for solving problems in the biological sciences or on understanding the fundamental challenges facing biologists.

Careers
A worldwide shortage of trained bioinformaticians and computational biologists means there’s high demand for your interdisciplinary skills. Work in pharmaceutical, biotechnology and medical technology companies, research organisations and governments. Find employment in roles such as bioinformatician, clinical data manager, geneticist, research scientist and biomedical computer scientist.

SAMPLE COURSES
- Bioinformatics I: Introduction
- Structural and Synthetic Biology
- Numerical Methods in Computational Science
- Genomics
- High-Performance Computing
- Programming in the Large
- Statistical Analysis of Genetic Data
- Visualisation, Computer Graphics and Data Analysis

“I’m a bioinformatician within a development biology and stem cell lab that generates a large amount of genetics data in relation to heart development and function. My role is to analyse this data, determine if it contains any interesting patterns, and what biological significance these patterns may have.

In my current job I get to work on some pretty interesting and varied research projects. Particularly in genetics at the moment, the technological developments are allowing for huge amounts of new and exciting data to be generated, and bioinformatics plays a critical role in the development of methods for analysing such data.”

Ralph Patrick
Bachelor of Science (Honours), PhD, Bioinformatics
Post-doctoral scientist, Victor Chang Cardiac Research Institute
BIOPHYSICS

What you will study
Biophysics is an exciting discipline that sits at the crossroads of biology, physics and chemistry. Study biophysics and you will find yourself instantly at the forefront of new biological knowledge that is revolutionising the way we cure disease, develop new technologies or create new renewable energy sources to power our world. You will learn how core principles from physics and chemistry ultimately govern the way that cells, molecules and atoms are combined to produce the complex biological systems that represent life on Earth as we know it. Computer and mathematical modelling techniques can be used to analyse and interpret how physical properties of molecules and cells determine the way they function. You’ll learn from internationally recognised UQ researchers how to use recent, Nobel Prize-winning technologies, like cryo-electron microscopy and optical tweezers, and see how these can provide new insights into the basis of life at every level.

Careers
Biophysics produces research-ready graduates. It provides an established path to further postgraduate research and, ultimately, for a career as an industry or academic research scientist. Biophysics also equips you with the skills you need to find employment in the biotechnology,biomanufacturing and bioprocess engineering industries. You may also find employment in the design and manufacture of medical devices and scientific equipment, or in scientific marketing and sales roles.

SAMPLE COURSES
- Foundations of Biophysics
- Frontiers in Biophysics
- Electromagnetism and Modern Physics
- Biochemistry and Molecular Biology
- Genes, Cells and Evolution
- Chemistry 1

BIOMEDICAL SCIENCE

What you will study
Biomedical scientists examine the complex relationship between mind, body and disease to treat, cure and prevent disease. They provide the foundation of modern healthcare in partnership with other healthcare professionals. Together they develop techniques to diagnose disease, evaluate the effectiveness of treatment, and research the causes and cures of disease. Your first-year courses provide a broad foundation in biology, chemistry and mathematics. You will expand your knowledge of anatomy, developmental biology, human genetics, immunology and infectious diseases, neuroscience, pharmacology and physiology. Apply this knowledge in practical sessions during your program and work alongside researchers and healthcare professionals to conduct medical research and test the effectiveness of treatments. Your UQ lecturers are at the forefront of some of the latest biomedical breakthroughs.

Careers
With in-depth knowledge and skills in modern biosciences you will be at the leading edge of modern medicine. A major in Biomedical Science is an established pathway for graduate entry to the Doctor of Medicine and other health programs. You will find a career in hospital, diagnostic or research laboratories; biotechnology or pharmaceutical companies; research institutes; government departments; not-for-profit organisations; or universities.

SAMPLE COURSES
- Molecular Cell Biology I
- Integrative Cell and Tissue Biology
- Biostatistics and Experimental Design
- Systems Physiology
- Human Anatomy
- Principles of Pharmacology
- Functional Neuroanatomy
- Human Biomedical Anatomy
- Functional Musculoskeletal Anatomy
- Integrative Physiology and Pathophysiology

“If you are looking to study in the field of biomedical science then UQ is certainly the place for you! You’ll find a wealth of high-calibre professionals at UQ – both within biomedical science and beyond. I really valued the opportunity to do a Study Abroad program, which was a life-changing experience that has allowed me to grow as a person academically, professionally and personally. The use of the Gross Anatomy Facility while studying neuroanatomy also helped me both academically and professionally, and in my incredible honours research year I was able to complete my honours year alongside an occupational therapist specialising in chronic pain.”

Georgia Richards
Bachelor of Science (Biomedical Science)
Bachelor of Science (Honours) (Pharmacology)
Medical Researcher, Veteran
Mental Health Initiative, Gallipoli Medical Research Foundation
I enjoy using science to identify new biological mechanisms and develop new technologies for sun care products that are proven to enhance our skin health. During my science degree I had the opportunity to work alongside accomplished researchers and work on active research projects.

My studies at UQ paved the way for roles as a chemist developing new skin care and hair care products in Australia and as a scientist at Shiseido, one of the world’s largest cosmetic companies.

After almost three years with Shiseido, I am now the Asia Pacific Market Development Manager for Lubrizol Corporation in Tokyo.”

Bianca McCarthy
Bachelor of Science (Chemistry and Biochemistry), Bachelor of Science (Honours) (Chemistry)
Asia Pacific Market Development Manager, Lubrizol Corporation
What you will study
An understanding of chemistry provides a foundation for fields such as education, technology and the environment. Learn the fundamentals of general, physical, organic and inorganic chemistry and specialise in areas such as:

• synthetic chemistry, where you explore the synthesis of complex molecules used in drugs, explosives, paints and cosmetics
• computational chemistry, involving the use of advanced theoretical calculations and high-power supercomputers to understand and predict the structures and reactivities of molecules and short-lived intermediate species
• nanoscience, to explore the processes of self-assembly enabling the controlled arrangement of atoms and molecules and the chemistry at interfaces
• medicinal chemistry, to explore molecular design and the modification of compound properties to enhance pharmaceutical applications as evaluated through bioassays.

All of these areas involve access to advanced instrumental techniques and the development of skills that employers value.

Careers
You will find employment in roles as diverse as chemist, materials scientist, environmental scientist, biochemist, toxicologist or forensic scientist. Other jobs include scientific journalist, quality assurance manager, pharmaceutical sales representative, patent examiner, teacher, and roles in marketing and conservation.

This major is accredited by the Royal Australian Chemical Institute.

What you will study
You will examine oceans and coasts using the biological, chemical and physical sciences to solve the complex challenges facing our marine ecosystems. Dive into the scientific study of oceanography, coastal processes, spatial science and remote sensing (using satellites and drones) and marine geosciences. Learn to apply a wide range of evidence-based environmental and conservation strategies. Your lecturers are among Australia’s leading marine researchers.

You’ll gain extensive fieldwork experience at UQ’s Heron Island Research Station on the southern Great Barrier Reef and UQ’s Moreton Bay Research Station on North Stradbroke Island (Minjerribah). Enhance your employability by adding a minor. Increase your skills and knowledge in a complementary field by choosing Earth Science or a range of other sciences.

Careers
In Australia, marine-based industries are worth more than $68 billion annually*.

Demand for highly skilled coastal and marine scientists is on the rise. You will find a diverse variety of roles in engineering and consulting, fishing and aquaculture, food technology, marine parks, ecotourism, marine resource development, marine science research institutes, museums, oil and gas, pharmacology, teaching, universities and wildlife conservation.

* The AIMS Index of Marine Industry, December 2018

Joseph Lovie Toon
Bachelor of Advanced Science (Honours) (Chemistry)
Graduate Program, Australian Government Clean Energy Regulator
COMPUTATIONAL SCIENCE

What you will study
Skills in computational science are essential for all scientific disciplines. Apply them in any career requiring computational techniques for problem-solving, forecasting, data analysis or data visualisation. Use your technical skills and mathematical knowledge to translate complex data into meaningful insights to shape our future.

Employ fundamental principles from computer science, mathematics and statistics and solve scientific problems across any specialist field. Apply computational problem-solving strategies to design algorithms for collecting, processing and analysing vast amounts of data. Use your programming skills to construct large-scale mathematical models and simulations to analyse and interpret real-world data. Learn to create a range of data visualisations and graphics to communicate your findings to scientific and non-scientific audiences.

Careers
Your specialist knowledge and skills provide a competitive employment advantage in industry. Work in roles such as theorist, researcher and/or inventor. Apply your theoretical expertise and innovation to complex problems and the creation of new technologies. Find employment in genome research; molecular and microbial sciences; bioinformatics; scientific research and analysis in biology, mathematics, computer science; visualisation and computational methods; or in the business, finance, engineering and government sectors, which rely on the construction and maintenance of large-scale simulations and models.

SAMPLE COURSES
- Numerical Methods in Computational Science
- Bioinformatics I: Introduction
- Algorithms and Data Structures
- Visualisation, Computer Graphics and Data Analysis
- High-Performance Computing
- Machine Learning
- Scientific Computing: Advanced Techniques and Applications

COMPUTER SCIENCE

What you will study
Programming skills are essential for information management, data analysis, predictive modelling, cyber security, artificial intelligence, gaming, e-commerce and communications. You will gain specialist technical skills in programming to create or optimise programs, systems or applications used across multiple devices. In your first year, study foundational courses in programming/software engineering, information systems and discrete mathematics. In second and third years you will have more specialised courses in computer systems, human-computer interaction, algorithms and data structures, artificial intelligence, computer networks and information security. Undertake major individual and team projects with exposure to current problems from industry and other areas of science.

Careers
Computer programmers are in high demand. You will work in health and scientific industries as an expert in analysing and simulating massive data; as a software programmer and online network specialist working in music, computer games, media and retail industries; as an information security specialist in finance and commerce sectors; or as a programming and computer systems expert in government sectors. Other roles are available as a web, gaming or app developer, software engineer, information security specialist, data analyst or computer systems expert.

SAMPLE COURSES
- Algorithms and Data Structures
- Artificial Intelligence
- Human-Computer Interaction
- Information Security
- Operating Systems Architecture
- Relational Database Systems
- Social and Mobile Computing
- Visualisation, Computer Graphics and Data Analysis

DEVELOPMENTAL BIOLOGY

What you will study
Be at the forefront of advances in modern medicine. Study developmental biology and learn how organisms form from a single cell. Understanding human and animal development is fundamental to medicine and biomedicine. State-of-the-art therapeutic strategies in medicine build on innovative discoveries from developmental biology. They use stem cells, cell engineering, artificial organs, 3D printing and tissue regeneration. You will develop and use your specialist knowledge to investigate genetic, molecular and cellular mechanisms of the human body to detect or treat diseases and birth defects, and for applications in regenerative medicine.

Learn from leading researchers working in the laboratories where current medical breakthroughs are taking place. Apply your theoretical knowledge and build your technical skills through practical laboratory sessions and small group tutorials. You will have the specialist knowledge and skills to progress into further study in medicine or a research-based honours program.

Careers
You will find roles within sectors such as health, science, research or academia as a laboratory scientist, research scientist, pathologist, research assistant, biomedical scientist, biomedical engineer, biomedical technician, or biology teacher or educator.

SAMPLE COURSES
- Genes, Cells and Evolution
- Molecular Cell Biology
- Developmental Neurobiology
- Stem Cells, Development and Developmental Disorders
- Stem Cells and Regenerative Medicine
EARTH SCIENCE

What you will study
Earth Science applies scientific principles to investigate Earth’s 4.6 billion year history. The Earth is the only planet in the solar system to have either plate tectonics or liquid water. You will learn how these attributes cause continents to move and volcanoes to erupt. You will learn about the development of life on Earth and how plate tectonics, biology, and chemistry interact to control Earth’s surface environment. You will develop your knowledge through laboratory practicals and fieldwork. Individual courses will teach you how to read Earth’s history from different parts of the rock record. The skills learnt are essential to solving societal challenges such as environmental change, reduction of natural hazards and securing resources for a sustainable and prosperous future.

Careers
Earth scientists have strong long-term employment prospects in the resource, energy, environmental and engineering sectors. Employers include national and multinational corporations, international contractors, government and research agencies. Roles include geoscientist, hydrologist, geophysicist, mine geologist, exploration geologist, natural resource scientist, project manager or environmental planner. Or progress into a research-based honours degree and contribute to new scientific knowledge.

SAMPLE COURSES
- Planet Earth: The Big Picture
- Fundamentals of Geographic Information and Technologies
- Paleobiology
- Ore Deposits and Exploration Geology
- Earth Materials
- Field Geology
- Marine Geoscience
- Hydrogeology
- Structural Geology

ECOLOGY AND CONSERVATION BIOLOGY

What you will study
Ecology and conservation biology are vital in solving the world’s environmental challenges. Acquire the latest knowledge, scientific techniques and technologies to tackle global issues such as climate change and the sustainable use of resources. Broaden your understanding of how organisms interact with each other and their environments. Choose to specialise in conservation biology, marine ecology, terrestrial ecology or evolutionary ecology. Your lecturers are internationally renowned ecologists and conservation experts. Share their expertise and current research during your lectures, seminars, fieldwork and laboratory sessions. You’ll gain first-hand practical experience in solving ecological problems in a range of environments. During your studies you’ll visit rainforest, outback and Great Barrier Reef and island ecosystems. Contribute to solutions for biodiversity loss, climate change, diminishing natural resources and the environmental impacts of human activity.

Careers
Employment demand is strong for ecologists, wildlife ecologists, ecological assessment officers, ecology consultants, environmental advisers, environmental planners, fisheries managers, marine and national park managers, and sustainability consultants and advisers. Roles are available in government, private industry and environmental impact assessment consultancies.

SAMPLE COURSES
- Biostatistics and Experimental Design
- Ecology Field Studies
- Urban Ecology
- Functional Ecology
- Conservation
- Plant Identification and Vegetation Classification
- Climate Change Biology
- Insect Identification and Taxonomy
- Analysis and Communication of Biological Data

ENTOMOLOGY

What you will study
Discover the essential role that insects play in maintaining global plant, animal and human health. They are vital indicators of environmental change. With an increasing world population, sustainable food production is now an urgent problem. Insects could become a major food source in the future. You’ll examine how insects interact with and adapt to their environments. Understand their vital role within ecosystems. Learn how insects contribute to crop protection, pest and environmental management, conservation and biosecurity across a range of industry sectors. Explore pest management, insect physiology, insect identification and taxonomy. Learn from lecturers who are also globally recognised researchers. Apply your knowledge to understand the impacts of climate change and enhance the quality of life for humans, animals and plants. Contribute to conservation solutions or pest management strategies to protect crops and livestock. Or kickstart your career in research by progressing into a research-based honours degree.

Careers
As an entomologist you will be in demand by state and federal government agencies. You’ll undertake a range of agricultural, biological or genetic research. Find employment as a consultant in the agricultural, environmental, public health, urban or food processing sectors. You will work in roles in the pharmaceutical, natural resources management, biosecurity and conservation industries.

SAMPLE COURSES
- Insect Science
- Arthropods and Human Health
- Biodiversity and Systematics
- Insect Identification and Taxonomy
- Insect Structure, Function and Physiology
What you will study

Take a scientific approach to the study of food and its consumption. The study of nutrition and food is integral to the health and longevity of society. You will study all aspects of the food system from ‘farm to fork’, including food processing principles, shelf-life studies and sensory evaluation of products with consumer panels, and the microbiological and chemical testing of products for consumer safety. You will examine the psychological, sociological and cultural factors influencing food choice and their effect on consumer health. Learn the physical and chemical composition of food to understand how food behaves under different processing and storage conditions, and how to improve the safety and quality of food and the range of products available. You will apply your knowledge during practical laboratory sessions and industry work placements.

Careers

As a food and nutrition scientist you will be in demand to provide safe and nutritious food to the increasing global population and work in community nutrition and education, food policy, research and development, food safety, food processing, food quality assurance, or technical sales and marketing. To gain accreditation as a dietitian, on completion of your Bachelor of Science (Food Science and Nutrition), undertake the postgraduate Master of Dietetics.

FOOD SCIENCE AND NUTRITION

What you will study

Follow your passion for food to create a rewarding career in one of Australia’s largest industries. Food scientists ensure the quality, safety and nutritive value in the processing and storage of food. Discover the chemical, biochemical, technology/engineering, microbiological and biometric science supporting the food industry. Learn the technical aspects of foods from ‘farm to fork’. You will study the development of new food products and the industrial processes used to manufacture food. Discover how to package materials for optimal storage and transport. You will conduct shelf-life studies and undertake sensory evaluation of products. Apply microbiological and chemical methodologies to test food products for consumer safety. Understand the processes involved in developing, producing and evaluating new foods. Examine the causes and prevention of foodborne illnesses and loss of quality. Apply your knowledge and build your industry connections during your work placements at leading food manufacturing organisations.

Careers

You will be in demand from Australia’s largest manufacturing industry. Find employment in food technology, processing and product development, food microbiology, food standards and policy, production management, quality assurance, food safety, research and product development or technical sales and marketing.

“...”

Samantha Wong

Bachelor of Science (Food Science and Nutrition) (Honours)

Regional Policy Officer, Food Industry Asia
What you will study

Genetics is continually transforming modern biology. Using sequenced genomes, computational analysis and molecular analytic tools, it allows unprecedented discoveries. Learn to apply genetic principles to diagnose, treat, prevent and cure illnesses in animals, plants and humans. You will explore strategies to provide security for agriculture and food production. Study the diversity of life and develop an in-depth understanding of the structure and expression of genes. Appreciate the genetic basis of traits and the complex interactions between genes. Gain skills to aid the public understanding of the nature of genetic disease. Explore the genetic diversity in endangered species populations. Learn to develop breeding programs and conservation efforts to prevent their extinction. Use genetic engineering techniques to generate new products to improve lives. Choose to study Genetics as an extended major or combine it with another scientific discipline.

Careers

Career choices for geneticists are some of the broadest available in the biological sciences. They range from ecology and genome research to medicine and agriculture including epidemiology and quarantine. Work in roles such as a molecular geneticist, a genetic counsellor in hospitals, as a conservation geneticist or a biotechnologist. Many BSc graduates also undertake research-based studies in honours, master’s, Doctor of Philosophy (PhD) and MD-PhD programs.

“I am a Project Officer in the Queensland Hydrogen Delivery Unit in the Queensland Department of Energy and Public Works. My role is to research, analyse, design, implement and review policies for government.

During my studies I conducted fieldwork and research in Queensland and overseas on climate change adaptation. Another one of my rotations was with the Department of Natural Resources, Mines and Energy where I researched and analysed international renewable energy policy and energy market trends to develop new departmental policy and inform cabinet decision-making. My UQ degree taught me vital skills and knowledge not only for a career in science, but for any field I choose to pursue.”

Ben Priebbenow
Bachelor of Science (Geographical Sciences)
Project Officer – Queensland Government

SAMPLE COURSES

<table>
<thead>
<tr>
<th>GENETICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genes, Cells and Evolution</td>
</tr>
<tr>
<td>Genetics</td>
</tr>
<tr>
<td>Genomics and Evolution of Complex Traits</td>
</tr>
<tr>
<td>Human Molecular Genetics in Health and Disease</td>
</tr>
<tr>
<td>Laboratory Skills in Genetic Research</td>
</tr>
<tr>
<td>Model Organism Genetics</td>
</tr>
<tr>
<td>Molecular Microbiology</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GEOGRAPHICAL SCIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Earth Observation Sciences (EDS)</td>
</tr>
<tr>
<td>Geography of Australia</td>
</tr>
<tr>
<td>Environment and Society</td>
</tr>
<tr>
<td>Climatology and Hydrology</td>
</tr>
<tr>
<td>Applied Demography</td>
</tr>
<tr>
<td>Biogeography and Geomorphology</td>
</tr>
<tr>
<td>Global Change: Problems and Prospects</td>
</tr>
</tbody>
</table>
What you will study
Geographical information science is an applied spatial science at the intersection of information technology and geography. It develops and integrates tools and approaches to collect, analyse and understand geographical patterns and processes. Geographical information science matches information to a location to reveal behaviours and patterns. This enables better decision-making in sectors such as agriculture, mining, town planning and public health. Explore the study of spatial patterns of physical and human phenomena at local, national and global scales. Blend theory with practical industry experience and learn to apply geographical information science software and remote sensing technologies for data analysis, data modelling and developing map visualisations to solve key environmental, societal or planning issues. Broaden your critical thinking, project implementation, management and professional spatial skills.

Careers
Skills in geographical information science apply to urban planning, built environment consulting, environment and resource management, and minerals exploration globally. Find roles as a geospatial application and software developer, environmental scientist, cartographer, a web map publisher, biodiversity project officer, wildlife management officer and park ranger. Be employed in landscape modelling, national parks and wildlife conservation, ecotourism, planning human services delivery, environmental consultancy, environmental monitoring and pollution control, meteorology, teaching and research.

SAMPLE COURSES
Geographical Information Systems
Introduction to Earth Observation Sciences
Environmental Systems
Earth Observation: Image Processing and Modelling
Spatial Analysis and Modelling

What you will study
A holistic understanding of how the human body works is fundamental in detecting disease and developing new or improved treatments. Investigate the structure of the human body at the gross, systematic and microscopic scale. Through hands-on practicals and class lectures, build your knowledge of the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary and reproductive systems. Learn to collect and evaluate data on human variation, measurement uncertainty, effect size and statistical significance. Gain practical skills in dissection and examine prospected cadavers to deepen your knowledge of gross human anatomy. Apply your skills in anatomical data analysis to investigate how these systems contribute to human growth and development and how they are linked to diseases and disorders. Deepen your knowledge of the complex relationship between the body, mind and disease with related courses in human physiology, neuroscience or pharmacology.

Careers
Knowledge in human anatomy underpins a wide range of career opportunities in the health sector, including those with a biomedical science focus. You will find roles as a laboratory scientist, research scientist, pathologist, research assistant, biomedical engineer, biomedical technician or as a biology teacher or educator. Use your studies to transition into allied health fields or as a pathway to medicine. Alternatively, kickstart your career in research by progressing into a research-based honours program.

SAMPLE COURSES
Cells to Organisms
Human Anatomy
Functional Neuroanatomy
Human Biomedical Anatomy
Functional Musculoskeletal Anatomy

What you will study
An in-depth knowledge of human physiology is essential to understand human health and disease. Examine how cell, tissue and organ systems function within the human body. Learn the vital roles that our brain, nerves and hormones play in controlling important cardiovascular, respiratory, reproductive and metabolic processes important to our survival. Develop your understanding of the nervous system, neuromuscular physiology, gastrointestinal tract, special senses and sensory system. You’ll apply scientific methods to investigate how the failure of these systems can result in disease or disorders. Study physiological functions at a molecular and cellular level to examine how the body’s core processes are altered in diseased states. Develop a holistic understanding of the complex links between the body, mind and disease, by combining your minor with related courses in human anatomy, neuroscience, pharmacology or food science and nutrition. An in-depth knowledge of human physiology is essential if you are considering further study in the fields of medicine, biomedical science or allied health.

Careers
You will find potential roles including science writer, biomedical researcher, biomedical scientist, biochemist, nutritionist, food technologist, medical researcher, or policy advisor in a wide range of sectors. Use your studies to transition into allied health fields or as a pathway to medicine. Alternatively, kickstart your career in research by progressing into a research-based honours program.

SAMPLE COURSES
Cells to Organisms
Integrative Cell and Tissue Biology
Systems Physiology
Integrative Physiology and Pathophysiology
Integrated Endocrinology
IMMUNOLOGY

What you will study
The immune system protects us against infectious disease, but is also central in most human disease states. Explore the complex mechanisms surrounding immunity and the human body’s response to disease. Understand the mechanisms of allergy, immunodeficiency and autoimmune diseases. Investigate the connection between a healthy microbiome and a well-balanced immune system, and theories on how modern Western lifestyles are disrupting this and causing disease. Study the exciting new technologies that harness the immune system to fight cancer. You will learn the techniques used in developing vaccines and immunotherapies from researchers currently driving the search for vaccines globally. Become proficient in the practical applications in biotechnology, microbiology, genetics, cell and molecular biology. You can gain practical skills and research experience in laboratories during your studies. A minor in Immunology prepares you for further study in medicine or a research-based honours program.

Careers
You will be equipped for a range of career opportunities in hospitals, research institutions, biotechnology firms, pharmaceutical companies or universities. These may be in roles such as a pathologist, immunologist, medical scientist, research scientist or bioprocess scientist. You may also find positions in vaccine development and clinical trials management.

SAMPLE COURSES
- Immunology
- Microbiology and Immunology
- Genes, Cells and Evolution
- Cells to Organisms
- Biochemistry and Molecular Biology
- Molecular Cell Biology I
- Chemistry I

MARINE BIOLOGY

What you will study
Marine biologists play an essential role in investigating, understanding and managing marine biodiversity and ecosystems. Learn to devise solutions for oceans at all scales, from microbes to ecosystems, through your understanding of the world’s oceans and their inhabitants. Your studies will emphasise hands-on experience. Learn with international leaders in the largest and most diverse marine group in Australia. Access some of the best equipped marine facilities in the country. You will undertake field studies at UQ’s two marine stations. Visit Heron Island Research Station on the southern Great Barrier Reef and access the Moreton Bay Research Station on North Stradbroke Island (Minjerribah). Your field trips provide plenty of hands-on activities to build your practical skills. Your specialist scientific knowledge provides opportunities in rapidly growing employment fields. You’ll work to protect biodiversity, restore habitats, adapt to environmental change and create sustainable bio-economic systems and solutions for aquatic foods and products. You will drive social change and promote healthy environments, communities and livelihoods.

Careers
You can work in expanding industries such as fisheries and aquaculture, wildlife conservation, habitat conservation, marine park management, environmental assessment and consultancies, marine bioresources, marine biotechnology, marine research and ecotourism.

SAMPLE COURSES
- Living Oceans
- Fish, Fisheries and Aquaculture
- Coral Reef Ecology and Conservation
- Tropical Marine Ecology
- Ecology and Evolution of Marine Invertebrates
- Applied Marine Science
- Biodiversity and Systematics
- Ecology
- Zoology
- Animal Behaviour
- Analysis and Communication of Biological Data

“My role in the Department of Agriculture and Fisheries as a fisheries resource officer is to write and publish ecological risk assessments. This involves extensive research about harvested and targeted species as well as non-target species like bycatch and protected species.

I chose to study at UQ because it has one of Australia’s best marine biology programs and I was able to access facilities at Heron Island, Moreton Bay and also undertake a month-long internship on a cage diving boat in South Africa with great white sharks.”

Lisa Walton
Bachelor of Marine Studies (Honours)
Fisheries Resource Officer, Department of Agriculture and Fisheries
What you will study

Microbiology is at the forefront of protection against infectious diseases. Study microorganisms, the immune system, microbial virulence, disease states and response to infection. Learn how vaccines protect animals and humans from infectious diseases. Discover the latest advances in vaccine development from your lecturers who are globally recognised experts. You will focus on immunology, virology, parasitology, environmental microbiology, microbial biotechnology and microbial genomics. Study bacterial, fungal and viral infections. Apply your knowledge in weekly laboratory practicals. Gain skills in specialist biomedical and molecular techniques used to diagnose and characterise infectious microbes and in the development of new diagnostics. Problem-based scenarios will enhance your analytical, research and communication skills.

Careers

The growth in biotechnology, aquaculture and emerging disease threats to plant, animal and human health globally has increased job opportunities for microbiologists. You will find roles in agriculture, environmental, chemical, pharmaceutical, medical, food processing and veterinary companies. Work in specialist areas such as forensics, biosecurity and quarantine in government agencies. Or kickstart your career in research by progressing into a research-based honours degree.

Sample courses

- Biostatistics and Experimental Design
- Microbiology and Immunology
- Biochemistry and Molecular Biology
- Genetics
- Integrative Cell and Tissue Biology
- Microbes and Human Health
- Molecular Cell Biology I
- Virology
- Microbial Genomics
- Biomedical Parasitology

Matthew Marshall
Bachelor of Science (Honours)
Meteorologist,
Bureau of Meteorology

“My UQ degree gave me a mathematical foundation for meteorology, which has been really invaluable in my role as a weather forecaster for the Bureau of Meteorology. There are some seriously big partial differential equations in atmospheric dynamics and my main responsibilities are issuing seven-day forecasts for the public and routine short-term and specialised forecasts for the aviation industry. What I found most beneficial about my program was the staff and student interactions. It was really easy to make friends with older students and lecturers so it was always easy to get help and advice for those willing to learn.”
**What you will study**

Reimagine how we develop the medical treatments and technological advances that will shape our world’s future. Study neuroscience to deepen your understanding of how the human brain and nervous system function. Examine the complexities of the brain. Explore how neural systems process sensory information, control our movement, form memories, react to stress, respond to disease and store vital information about the world around us. Combine your neuroscience minor with courses in anatomy, physiology, pharmacology, molecular biology and cellular biology to prepare yourself for further study in the field of medicine. Or continue into a research-based honours degree in science or biomedical science. Study courses in mathematics, statistics, computer science or physics to apply your knowledge to problems in artificial intelligence.

**Careers**

Find employment in the business, biotechnology, health, science, information technology or pharmaceutical industries. Work in roles as a biomedical scientist, a research assistant, research officer, quality assurance officer or manager, and in emerging areas such as a deep learning and machine learning engineering.

**SAMPLE COURSES**

- Biochemistry and Molecular Biology
- Microbiology and Immunology
- Genetics
- Microbes and Human Health
- Virology
- Immunology
- Biomedical Parasitology
- Global Health and Infectious Diseases
- Genomics
- Molecular Systems Biology

---

**MICROBIOLOGY, INFECTION AND IMMUNITY**

**What you will study**

Dive into the complex human immune system. Discover how we are transforming the way we treat and prevent disease. You’ll gain a comprehensive understanding of how immune systems can be used to prevent, treat and cure diseases. Investigate the role of bacteria, viruses and parasites in disease; the molecular basis of immune recognition; and the regulation of immune response in a range of infectious diseases. Learn immunological techniques for vaccines and immunotherapy development. Discover their practical applications in biotechnology, microbiology, genetics, cell and molecular biology. Your lecturers are leading researchers working in the laboratories where current medical breakthroughs are taking place. Apply your theoretical knowledge and build your technical skills through practical laboratory sessions and small group tutorials.

**Careers**

You will be employed in hospitals, research institutions, biotechnology firms, pharmaceutical companies, government agencies or universities. You may work in biosecurity, diagnostics and pathology, vaccinology, antimicrobial therapeutics or biosafety. Find roles as a pathologist, immunologist, medical scientist, research scientist or bioprocess scientist.

**SAMPLE COURSES**

- Genes, Cells and Evolution
- Systems Pharmacology
- Experimental Pharmacology
- Molecular Cell Biology I
- Principles of Pharmacology

---

**PHARMACOLOGY**

**What you will study**

Pharmacology is revolutionising the way we use existing drugs and develop new medicines to help prevent and combat disease. You’ll gain comprehensive knowledge on how drugs work in the human body at the molecular, cellular and whole-body levels. Learn how active chemical agents in medicines affect our cells, tissue or organs to examine their benefits, side effects and interactions in human health. Discover how genetics determines why many drugs do, or do not, work in different patients. Learn the latest techniques to test drug effects and how to evaluate their benefits and risks in treating human diseases. Gain vital research experience while you study by contributing to projects that could lead to new medical breakthroughs.

**Careers**

The pharmaceutical industry is a $1 trillion global industry. Pharmacologists find roles within this sector as clinical researchers undertaking clinical trials, as analytical chemists or medical sales representatives. They may also be employed as advisors, environmental scientists or toxicologists within government departments, in biotechnology or other health related companies, or as researchers in research institutes and universities.

**SAMPLE COURSES**

- Cells to Organisms
- Integrative Cell and Tissue Biology
- Molecular Cell Biology I
- Molecular and Cellular Neuroscience
- The Integrated Brain
I wasn’t expecting to go into artificial intelligence, or to find artificial intelligence in a law firm – but it’s a changing industry. As the Deep Learning Lead at Shine Lawyers I look after the artificial intelligence projects and analyse the law firm’s previous cases to predict the likely outcomes of future cases. There’s lots of changes happening to the legal industry and it’s exciting to be at the forefront and leading this change. The scientific and mathematical knowledge and practical research experience I gained at UQ has been instrumental to my career success to date — so regardless of what lies ahead, I’m confident I’m well prepared. During my studies I worked in the genomics lab at the Institute for Molecular Biosciences and the bee bio robotics lab at the Queensland Brain Institute.

Ann Bui
Bachelor of Science (Honours) (Physics), PhD (Physics)
Deep Learning Lead, Shine Lawyers

“I wasn’t expecting to go into artificial intelligence, or to find artificial intelligence in a law firm – but it’s a changing industry. As the Deep Learning Lead at Shine Lawyers I look after the artificial intelligence projects and analyse the law firm’s previous cases to predict the likely outcomes of future cases. There’s lots of changes happening to the legal industry and it’s exciting to be at the forefront and leading this change. The scientific and mathematical knowledge and practical research experience I gained at UQ has been instrumental to my career success to date — so regardless of what lies ahead, I’m confident I’m well prepared. During my studies I worked in the genomics lab at the Institute for Molecular Biosciences and the bee bio robotics lab at the Queensland Brain Institute.”
PSYCHOLOGY

What you will study
Study the science of how people behave, think and feel. Examine brain function, memory, conscious experience, lifespan development, social behaviour, and functional and dysfunctional behaviour. You will develop analytical skills and apply the scientific perspective to psychological phenomena. Build your understanding of neuroscience, learning and cognition, developmental psychology, social psychology, and the application of scientific methods and statistical techniques used in psychological research. Develop an in-depth appreciation of the issues and learn to conduct psychological research and interpret findings.

Careers
Your combination of science and psychology studies provides a competitive edge in professions such as human resources, mental health, counselling and corrective services. With further training, you may become a registered psychologist specialising in clinical psychology, health psychology, organisational psychology, or sport and exercise psychology. To gain full registration as a psychologist with the Psychology Board of Australia, you must complete a Psychology extended major before going on to honours and postgraduate study. After graduation, you may also choose to undertake research-based studies in honours, master’s and Doctor of Philosophy (PhD) programs.

SAMPLE COURSES
- Developmental Psychology
- Learning and Cognition
- Neuroscience for Psychologists
- Parenting and Family Psychology
- Psychopathology
- Psychotherapies and Counselling
- Sensory Neuroscience
- Social and Organisational Psychology
- The Neuroscience of Social Behaviour
- Industrial and Organisational Psychology

PUBLIC HEALTH

What you will study
Make a positive difference to people’s lives. Learn to measure, plan, manage and evaluate health programs and services to prevent illness and promote good health within communities. Public health is based on a multidisciplinary understanding of health. Explore and examine the basis of disease and wellbeing through human behaviour, physical environments, socio-economic and cultural factors, and systems of healthcare management. You will establish core understanding through the foundational disciplines of public health, including epidemiology, biostatistics, health systems, environmental health and social sciences.

Careers
You will find employment in the public health sector, government, non-profit or private health-based organisations. Work in clinical or non-clinical roles, research roles, or behind the scenes in the business of health. Find non-clinical careers in health promotion, community health, health service management or health information in hospitals and other healthcare facilities, community health clinic management, community nutrition, or public health management. Apply for entry into clinical careers in medicine or allied health or undertake the Master of Public Health. Prepare for a research career with an additional honours year.

SAMPLE COURSES
- Introduction to Public Health
- Health Systems and Policy
- Aboriginal and Torres Strait Islander Health
- Major Diseases and their Control
- Environmental Health
- Global Health and Infectious Disease
- Understanding Health Behaviours
- Nutrition in the Lifespan
- Health Policy in Practice
- Community and Public Health Nutrition
- Influencing Health Behaviours

“I chose to follow my interests and studied a number of scientific fields, including botany and genetics, before choosing to major in psychology.

I combine my skills in data analysis with my rigorous scientific approach to shed light and address key marketing and e-commerce challenges that businesses face in today’s digital world.

I apply my knowledge of behavioural science to develop experimental research and designs to test theories and learn new insights that can help to find the answers to the questions that need solving.”

Aidan Hegarty
Bachelor of Science (Honours) (Psychology)
Head of Research, Just Media Design
I chose UQ to pursue my science degree because of the outstanding reputation it had in the environmental sciences. After I completed my degree, I worked for two years as a research assistant in the Department of Environmental Science, Policy and Management at the University of California, Berkeley. Now I am completing my PhD at Monash University in Melbourne. As part of my research, I’m developing a decision-making tool for the management of inhabited island systems to achieve the best possible conservation outcomes. With such extreme environmental change happening at such an incredible pace, there are many problems to solve quickly, and that makes this field very exciting to be in.”

Allie Nance
Bachelor of Science (Honours)
( Ecology and Zoology)
PhD student, Monash University
Bachelor of Veterinary Science (Honours)

Taught at UQ’s Gatton campus, you will access world-class facilities, teachers, research and knowledge during your program and become a fully qualified and internationally recognised veterinarian.

Why Veterinary Science (Honours) at UQ?

Gain the specialist knowledge and practical skills to apply medical, diagnostic and therapeutic principles to companion, domestic, exotic, wildlife and production animals. Your program has been developed in continuous consultation with industry. You will access the latest research developments, coursework and placements and receive the most relevant, up-to-date knowledge and expertise to prepare you to become a veterinarian with a globally accredited qualification. On graduation, you’ll be eligible to register as a veterinary science practitioner in Australia, New Zealand, the United Kingdom, South Africa, Singapore, Hong Kong or Malaysia and be eligible to sit the North American Veterinary Licensing Examination.

What you will study

Your studies begin with foundational training in the anatomy, physiology, biochemistry, nutrition and behaviour of healthy domestic and wild animals. You will complete over 600 hours of clinical and laboratory practical training during your first three years and gain animal handling and husbandry skills. You will acquire a detailed knowledge of animal pathology and diagnostic skills and learn to link these to the manifestation and recognition of various disease processes. In your fourth year, you will undertake dedicated medicine and surgery courses for each of the major animal species. You will also complete population and public health training.

This will be complemented with 130 hours of clinical practical work. Your final year includes more than 1,400 hours of lecture-free training within university and privately owned practices. Throughout your program you’ll also develop essential clinical skills and acquire professional competencies such as communication, business skills and self-development.

Placements and practical experience

You will undertake over 400 hours of extramural studies* involving placements on farms and other animal management enterprises, and within clinics, government offices and laboratories to provide authentic clinical and professional competencies and improve your work readiness. You will receive essential hands-on experience at UQ Gatton’s Small Animal Hospital and Equine Specialist Hospital. Additionally, you may participate in summer or winter research scholarship programs or develop your skills through volunteering in the on-campus animal and clinical facilities.

This will be complemented with 130 hours of clinical practical work. Your final year includes more than 1,400 hours of lecture-free training within university and privately owned practices. Throughout your program you’ll also develop essential clinical skills and acquire professional competencies such as communication, business skills and self-development.

Situational judgement test

The CASPer situational judgement test recognises attributes other than academic performance. For more information, see future-students.uq.edu.au

Careers

As a fully qualified veterinarian you will work as a general practitioner in veterinary clinical practice. You can also seek employment in biosecurity, animal production and disease control, and the pharmaceutical livestock and biotechnology industries, or undertake research roles within universities and governments.

SAMPLE COURSES

- Animal and Veterinary Biology
- Animal Breeding and Molecular Genetics
- Animal Management for Veterinarians
- Companion Animal Clinical Studies
- Equine Clinical Studies
- Infectious Diseases
- Ruminant Medicine and Surgery
- Rural Veterinary Practice – Livestock Medicine
- Small Animals Clinics
- Veterinary Anaesthesia, Diagnostic Imaging and Emergency and Critical Care
- Veterinary Pharmacology, Therapeutics and Toxicology
- Veterinary Professional Practice
- Veterinary Systems Pathology and Medicine
- Veterinary Reproduction

For more information future-students.uq.edu.au science.uq.edu.au/planner
Bachelor of Veterinary Technology

Gain the theoretical and practical skills to become a para-veterinary healthcare specialist or enter a career in the broader animal health or welfare industries.

Why Veterinary Technology at UQ?
Learn from internationally regarded academics and access the world-class animal health facilities at UQ’s Gatton campus. As a para-veterinary healthcare specialist, you will be equipped with critical thinking, problem-solving, and self-directed learning skills. You’ll graduate with the expertise to take on a leadership role across a broad range of animal-related fields. The Bachelor of Veterinary Technology may be used as a pathway into the Bachelor of Veterinary Science (Honours) program.

What you will study
You’ll study basic sciences of chemistry, biochemistry and mathematics plus animal handling and care, welfare and behaviour, applied and clinical nutrition, mechanisms of animal disease and diagnostic techniques. You’ll learn about clinical aspects of small and large animal health, veterinary pharmacology and therapeutics. Build your expertise in veterinary surgical and medical nursing principles, and veterinary practice management. Elective options include equine exercise and rehabilitation, veterinary laboratory diagnostics, or molecular and quantitative genetics. As you progress through the program, choose from a wide range of elective courses to broaden or focus your skills or pursue an area of interest.

Placements and practical experience
In your first and second years, you will gain at least 80 hours of practical sessions and extramural studies* of 20 days. In your third year, you will complete clinical training, rotations and placements. These placements are great opportunities to establish industry contacts and gain current, industry-relevant experience. Beyond the formal curriculum, you can participate in summer or winter research scholarship programs in UQ’s School of Veterinary Science. Or choose to develop your skills through volunteering in one of the many animal and clinical facilities within the School and on campus.

Note: Students will be exposed to large and small animals as part of their learning, so vaccinations against tetanus and Q fever are mandatory. If you have any concerns about vaccinations, you should contact the Program Coordinator, Professor Paul Mills, before applying for this program.

* Extramural studies: Studies located or taking place off-campus.

Get additional skills
Broaden your skills by concurrently enrolling in the Certificate IV in Veterinary Nursing, the Certificate III in Rural Operations or the Farm Ready program through UQ Skills (details available at skills-training.uq.edu.au/programs).

Careers
You will find employment within the veterinary industry in veterinary practice, animal health biosecurity, veterinary pharmaceutical companies, animal nutrition companies, government agencies and councils, research institutions and the livestock sector.

Undertaking an honours year in either a research or clinical stream could lead you to postgraduate studies.

QTAC UQ MINIMUM SELECTION LOWEST ATAR TO RECEIVE DURATION START ADJUSTED UNADJUSTED ATAR / IB THRESHOLD 2022* ATAR 2022* CAMPUS HONOURS ADMISSION REQUIREMENTS

787309 2387 78.00 / 28 78.20 74.95 3 years full-time (or part-time equivalent) 1 Gatton Additional year of study

Qld Year 12 (or equivalent) General English subject (Units 3 & 4, C); General Mathematics or Mathematical Methods (Units 3 & 4, C). Biology, Chemistry and/or Physics are recommended subjects.

Minimum (adjusted) selection threshold 2022 is the minimum score that was considered for an offer of a place to all applicants.

Lowest ATAR to receive an offer refers to all recent secondary students who were offered a place for Semester 1, 2022. The Lowest ATAR (Adjusted) refers to the ATAR plus any adjustment factors. The Lowest ATAR (Unadjusted) refers to the lowest ATAR excluding any adjustment factors.

SAGE: Science, Agriculture, and Veterinary Education

For more information future-students.uq.edu.au science.uq.edu.au/planner
Bachelor of Wildlife Science

Build expertise in animal biology (anatomy, physiology and behaviour) directed towards the conservation and management of wild animals. Study a broad range of native and exotic species, including amphibians, reptiles, birds and mammals. Learn how to manage wildlife populations in the field (in situ) and in captivity (ex situ).

What you will study
You will learn to implement and evaluate wildlife management programs for captive and free-ranging wildlife. Develop a deep scientific knowledge of wildlife anatomy and physiology, captive breeding, reproduction, nutrition, health, husbandry, ecology, welfare and behaviour. Your excellent wildlife trapping, identification and animal handling skills will put you in demand in the wildlife and vertebrate pest management industries in Australia. Choose from specific wildlife courses and a field-trip-based elective that will emphasise in practice both in situ and ex situ wildlife management.

Why Wildlife Science at UQ?
Gain expertise in animal biology and conservation. You’ll study native and exotic species including amphibians, reptiles, birds and mammals. Focus on the management of populations in the wild (in situ) and in captivity (ex situ). You’ll study the human-wildlife interaction and their successful co-existence. You will explore important interactions including those associated with agricultural practice, the peri-urban landscape and the role of wildlife in zoonotic disease. Learn from leading wildlife scientists and biologists, and gain the skills to create and evaluate wildlife management programs for captive and wild animals. UQ is the most highly ranked Australian university for Environmental Science and Agriculture research globally. Gain hands-on wildlife experience in UQ’s wildlife research facilities and have access to some of the best animal and veterinary facilities in the southern hemisphere. hiddenvalewildlife.uq.edu.au

Dual program
Double your skills and your opportunities with a dual degree. You can study the Bachelor of Wildlife Science as a dual four-year degree with the Bachelor of Agribusiness. Combine your practical business skills with your interests in wildlife science. This is a perfect combination if you are interested in establishing a wildlife management business (tourism or wildlife consultant) or pursuing a management position in the zoo industry.

Placements and practical experience
You’ll have the opportunity to be involved with industry placements in zoos, sanctuaries, wildlife parks, government agencies, welfare organisations and animal breeding enterprises. Industry placements will add to your practical, hands-on work experience. They are also great opportunities to establish industry contacts and gain current, industry-relevant experience.

Get additional skills
You can also broaden your skill set by concurrently enrolling in the Certificate III in Rural Operations or the Farm Ready program through UQ Skills (details available at skills-training.uq.edu.au/programs).

Why Wildlife Science at UQ?
Gain expertise in animal biology and conservation. You’ll study native and exotic species including amphibians, reptiles, birds and mammals. Focus on the management of populations in the wild (in situ) and in captivity (ex situ). You’ll study the human-wildlife interaction and their successful co-existence. You will explore important interactions including those associated with agricultural practice, the peri-urban landscape and the role of wildlife in zoonotic disease. Learn from leading wildlife scientists and biologists, and gain the skills to create and evaluate wildlife management programs for captive and wild animals. UQ is the most highly ranked Australian university for Environmental Science and Agriculture research globally. Gain hands-on wildlife experience in UQ’s wildlife research facilities and have access to some of the best animal and veterinary facilities in the southern hemisphere. hiddenvalewildlife.uq.edu.au

Why Wildlife Science at UQ?
Gain expertise in animal biology and conservation. You’ll study native and exotic species including amphibians, reptiles, birds and mammals. Focus on the management of populations in the wild (in situ) and in captivity (ex situ). You’ll study the human-wildlife interaction and their successful co-existence. You will explore important interactions including those associated with agricultural practice, the peri-urban landscape and the role of wildlife in zoonotic disease. Learn from leading wildlife scientists and biologists, and gain the skills to create and evaluate wildlife management programs for captive and wild animals. UQ is the most highly ranked Australian university for Environmental Science and Agriculture research globally. Gain hands-on wildlife experience in UQ’s wildlife research facilities and have access to some of the best animal and veterinary facilities in the southern hemisphere. hiddenvalewildlife.uq.edu.au

Why Wildlife Science at UQ?
Gain expertise in animal biology and conservation. You’ll study native and exotic species including amphibians, reptiles, birds and mammals. Focus on the management of populations in the wild (in situ) and in captivity (ex situ). You’ll study the human-wildlife interaction and their successful co-existence. You will explore important interactions including those associated with agricultural practice, the peri-urban landscape and the role of wildlife in zoonotic disease. Learn from leading wildlife scientists and biologists, and gain the skills to create and evaluate wildlife management programs for captive and wild animals. UQ is the most highly ranked Australian university for Environmental Science and Agriculture research globally. Gain hands-on wildlife experience in UQ’s wildlife research facilities and have access to some of the best animal and veterinary facilities in the southern hemisphere. hiddenvalewildlife.uq.edu.au

Why Wildlife Science at UQ?
Gain expertise in animal biology and conservation. You’ll study native and exotic species including amphibians, reptiles, birds and mammals. Focus on the management of populations in the wild (in situ) and in captivity (ex situ). You’ll study the human-wildlife interaction and their successful co-existence. You will explore important interactions including those associated with agricultural practice, the peri-urban landscape and the role of wildlife in zoonotic disease. Learn from leading wildlife scientists and biologists, and gain the skills to create and evaluate wildlife management programs for captive and wild animals. UQ is the most highly ranked Australian university for Environmental Science and Agriculture research globally. Gain hands-on wildlife experience in UQ’s wildlife research facilities and have access to some of the best animal and veterinary facilities in the southern hemisphere. hiddenvalewildlife.uq.edu.au

Why Wildlife Science at UQ?
Gain expertise in animal biology and conservation. You’ll study native and exotic species including amphibia...
Food and retail
You can buy food and drinks from the Coffee Pod, Dining Hall and Walkway Café, and you can purchase and sell books at our retail bookshop. There’s an on-campus post office, and keep an eye out for the regular events for students in the Central Walkway.

Teaching and research facilities
The campus houses production animals, horticultural fields, a plant nursery, post-harvest facilities, research laboratories and greenhouses, a wildlife facility, specialist veterinary and equine hospitals, and some of the best animal teaching facilities in the southern hemisphere.

Fitness
UQ Sport Gatton is home to a heated 25-metre pool, as well as a gym equipped with extensive weights and cardio equipment. You can also take part in group fitness classes every week, or grab a friend and head to the squash, tennis, netball and basketball courts, cricket nets, indoor sports hall, or one of three playing fields.

Library
UQ Gatton’s recently refurbished library provides computers, comfortable furniture and break-out spaces, individual study spaces with acoustic lining, power and USB connectors, height-adjustable desks, meeting rooms, a postgraduate study area, and a 24-hour study space.

Free inter-campus bus service
UQ provides a free inter-campus bus service between UQ Gatton and UQ St Lucia for students and staff.

For accommodation information, see page 46.

future-students.uq.edu.au/campuses
Student lifestyle

Study is only one part of your life as a UQ student. Our easily accessible campuses offer a full university experience, where you will make life-long friends and broaden your horizons by studying, working and socialising with people from all over the world.

UQ St Lucia

Considered one of the most beautiful campuses in the world, UQ’s St Lucia campus is a vibrant mix of old sandstone buildings, modern architecture, parklands and lakes. It’s a city within a city, with everything you need to study, live and relax. You will find world-class teaching and research facilities at UQ St Lucia, including Queensland’s largest research library plus fully equipped laboratories and lecture theatres. The campus caters to all study and living needs, including excellent sporting facilities, museums, art galleries, shops, a post office, restaurants and refectories. UQ St Lucia is also a great place to enjoy university life with market days and cultural and sporting events, or you can join one of the 220 clubs and societies.

Research institutes on campus, many with a multidisciplinary focus, include:
- Australian Institute for Bioengineering and Nanotechnology (AIBN)
- Global Change Institute (GCI)
- Institute for Molecular Bioscience (IMB)
- Institute for Social Science Research (ISSR)
- Mater Research Institute–UQ
- Queensland Alliance for Agriculture and Food Innovation (QAAFI)
- Queensland Brain Institute (QBI)
- Sustainable Minerals Institute (SMI).

UQ Herston

UQ Herston is home to our Medicine, Dentistry and Public Health programs, as well as state of the art clinical facilities including:
- Herston Imaging Research Facility
- Oral Health Centre
- RECOVER Injury Research Centre
- UQ Centre for Clinical Research
- Surgical, Treatment and Rehabilitation Service.

UQ shares premises with the Royal Brisbane and Women’s Hospital and the QIMR Berghofer Medical Research Institute, creating a health-focused community where students gain practical experience alongside industry professionals and leading researchers.

Travel options to UQ campuses

<table>
<thead>
<tr>
<th>UQ ST LUCIA</th>
<th>UQ GATTON</th>
<th>UQ HERSTON</th>
</tr>
</thead>
<tbody>
<tr>
<td>7km from Brisbane CBD</td>
<td>5km from Gatton CBD</td>
<td>5km from Brisbane CBD</td>
</tr>
<tr>
<td>10+ direct bus routes One arrives every 2 mins at the UQ Lakes bus stop</td>
<td>4+ free inter-campus buses daily</td>
<td>2 mins to Inner Northern Busway from the CBD</td>
</tr>
<tr>
<td>5+ train stations within 4km</td>
<td>Rail-bus service runs between Brisbane and Gatton</td>
<td>3+ train stations within 2km</td>
</tr>
<tr>
<td>15 mins between each ferry</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Travel time by free inter-campus bus between UQ St Lucia and UQ Gatton: 90 minutes (one way)
Plan your finances

University is a valuable investment in your future. Knowing what it costs will help you manage your money.

Fees and costs

Course fees and student contributions
Most undergraduate places for domestic students at UQ are funded partly by the Australian Government (Commonwealth support) and partly by you (student contribution). You need a Unique Student Identifier (USI) to obtain a Commonwealth supported place.

Fees are charged according to the courses you choose, not the program you’re enrolled in, so it’s not possible to publish a fixed fee for a program. Because most students can choose different electives during their program, costs will vary. However, indicative annual fees are listed with each program on our Future Students website to help you plan your budget.

If you’re an Australian or New Zealand citizen, or an Australian permanent humanitarian visa holder and have a Commonwealth-supported place, you may also qualify for the Higher Education Loan Program (HELP) to defer payment of your student contribution and Student Services and Amenities Fee (SSAF). You will need to apply for a tax file number, if you don’t already have one, in order to obtain a HELP loan.

International students pay full tuition fees. If you have a Commonwealth-supported place, your student contribution amount depends on the fee band level of the courses you choose (see table above right).

Commonwealth-supported fee bands

<table>
<thead>
<tr>
<th>BAND</th>
<th>AREA OF STUDY</th>
<th>ANNUAL STUDENT CONTRIBUTION*</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Law, accounting, administration, economics, commerce, communications, society and culture</td>
<td>$14,630</td>
</tr>
<tr>
<td>3</td>
<td>Dentistry, medicine, veterinary science</td>
<td>$11,401</td>
</tr>
<tr>
<td>2</td>
<td>Other health, allied health, built environment, computing, engineering, surveying, science, environmental studies, pathology, visual and performing arts, professional pathway psychology, professional pathway social work</td>
<td>$8,021</td>
</tr>
<tr>
<td>1</td>
<td>Agriculture, English, mathematics, education, clinical psychology, Indigenous and foreign languages, nursing, statistics</td>
<td>$3,985</td>
</tr>
</tbody>
</table>

*2022 figures only, based on a full-time (16 unit) workload; figures indexed annually

Monthly cost of living

<table>
<thead>
<tr>
<th></th>
<th>STUDENT LIVING IN ON-CAMPUS COLLEGE</th>
<th>STUDENT LIVING OFF-CAMPUS / STUDENT ACCOMMODATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent</td>
<td>$2,000–$2,800</td>
<td>$480–$1,760</td>
</tr>
<tr>
<td>Utilities (gas, electricity, water)</td>
<td>included in rent</td>
<td>$150–$175</td>
</tr>
<tr>
<td>Food</td>
<td>included in rent</td>
<td>$320–$600</td>
</tr>
<tr>
<td>Mobile phone / internet</td>
<td>$80–$120</td>
<td>$80–$120</td>
</tr>
<tr>
<td>Public transport</td>
<td>$40</td>
<td>$40–$100</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$2,120–$2,960</strong></td>
<td><strong>$1,080–$2,755</strong></td>
</tr>
</tbody>
</table>

*This table should be taken as a guide only. For the most accurate costs of living, visit my.uq.edu.au/starting-at-uq/student-finances/budgeting

Student Services and Amenities Fee

The Student Services and Amenities Fee (SSAF) is a compulsory fee that is used to subsidise, support or fund non-academic services for students, such as support services, advocacy, study skills, career development and employability.

UQ levies the SSAF – which is capped at a maximum of $313 for 2021 – according to whether you’re an internal or external student, and full-time or part-time. The fee is indexed annually. bit.ly/uq_ssa

Keeping your costs down

- Investigate the financial support and fee payment options offered by Centrelink. servicesaustralia.gov.au
- Explore the scholarships on offer (see page 5).
- Enjoy UQ Union’s free and low-cost entertainment and activities, such as Morning Marmalade and Kampus Kitchen. uqu.com.au
- Get concessions and student discounts at participating retailers and institutions with your UQ student card.
Accommodation for every journey
Beyond your books and classes, where you choose to live is also part of the learning journey.
Whether you want to experience UQ living on-campus or in accommodation outside of university, we’re here to help curious minds feel right at home.

On-campus living
Welcome to a truly immersive university experience. Join us on campus and connect to a community that centres around you and your education.

UQ Residential Colleges
Make lifelong friendships in a welcoming student community. Our 10 residential colleges provide a place where you can make memories and connections that stay with you for life.
Living in a UQ college also means access to:
• a welcoming, collegial community
• 24/7 onsite staff support and pastoral care
• well established academic communities and alumni networks
• inter-college sporting, cultural, community and social activities
• outstanding leadership, career mentoring and wellbeing programs.
With their unique and historical connection to the university, UQ colleges have an ideal on-campus home for everyone.

Gatton Halls of Residence
If you are studying at Gatton, stay in the Gatton Halls of Residence. The Halls have provided our students with a home since 1897. With 436 rooms, there’s a place for you at Gatton.

UQ Residences
Kev Carmody House is UQ’s brand new student residence exclusively for UQ students.
Located in the heart of our St Lucia campus, Kev Carmody House has the convenience of being just minutes away from classes and features:
• 610 light-filled and spacious one-bedroom rooms with an ensuite
• a wide range of social areas to cook and catch up with new friends
• world-class facilities and a stunning rooftop pool deck
• an engaging student life program

Off-campus living
From city living to suburban share houses, you’ll find a place to stay in no time.

Purpose-built student living
Join students from universities all across Brisbane at one of our recommended student accommodation providers. A variety of studio, single-bedroom and twin share options are available.

Private housing
Would you like to branch out from the uni community? You might like to share a house or apartment with other people. Brisbane’s rental market features everything from low-cost share houses to high-rise apartments, while Gatton offers a range of affordable share houses. To find a room, apartment or house, first check our UQ Rentals database. There are also private rental accommodation websites and you can rent directly from real estate agents.

my.uq.edu.au/student-support/accommodation

UQ Accommodation team
Our UQ Accommodation team can help you find your ideal home. The team offers free information sessions before classes start, and can also give you advice, check documentation for you, and direct you to useful material online.
accommodation.uq.edu.au

Guaranteed accommodation
When you apply through UQ Guaranteed Accommodation, you are able to secure your accommodation prior to arriving in Brisbane and commencing studies at UQ.

The UQ Residential Colleges (on campus) and UQ Approved Providers (off campus) set aside a guaranteed number of rooms so you are able to compare, choose and secure the most appropriate accommodation easily. Find out more at:
bit.ly/guaranteedaccommodation
Are you an international student?

While a lot of information in this guide is relevant to you, certain key information may be different for international students.

You are an international student if you are:

- not a citizen of Australia or New Zealand, or
- not an Australian permanent resident, or
- a temporary resident (visa status) of Australia.

Eligibility for UQ study

For admission into undergraduate programs at UQ, you must have:

- completed secondary studies equivalent to Queensland Year 12 with a score comparable to the ATAR or Queensland Year 12 Rank (prior to 2020) specified for your program
- satisfied individual program requirements (e.g. specific subject prerequisites, auditions or interviews)
- satisfied UQ’s English language proficiency requirements.

If you do not meet these criteria, you might consider taking a foundation program bridging course or English language pathway offered by UQ College.

Pathway options

future-students.uq.edu.au/admissions/undergraduate/consider-your-pathway-options

Applying to UQ

A UQ degree is a qualification the world will recognise. If you’ve got the ability, commitment and ambition to make the most of UQ, then we want to hear from you.

future-students.uq.edu.au/admissions

Study options at UQ

If you would like to know more about your study options at UQ, enquire through our online form, and one of our UQ advisers will respond. You can also register for an advisory call with one of our student advisers. If you are in Brisbane, sign up for a campus tour.

We also have a range of publications, including the international undergraduate and postgraduate student guides, to help you.

Contact Us

future-students.uq.edu.au/contact-us

Advisory calls


Campus tours

future-students.uq.edu.au/university-life/campus-tours

Program guides

future-students.uq.edu.au/teachers-guidance-counsellors

Fees

As an international student, you will pay tuition fees, and potentially other non-tuition fees. UQ has program-based tuition fees for coursework award programs, meaning that all courses within a program are charged at the same tuition fee rate per unit for a given academic year. Some programs also have additional costs.

Non-tuition fees paid to the University may include the student services and amenities fee, books and equipment, health insurance, administration, accommodation, and assistance to apply for or hold a student visa.

future-students.uq.edu.au/admissions/undergraduate/review-fees-and-financial-support

Other expenses

International students applying to study in Australia must have a student visa or an alternative visa that enables them to study full-time on campus. Please consider expenses such as visa and medical (pre-departure) fees, general living expenses, establishment costs such as buying furniture, paying a rental bond and setting up electricity, gas and mobile phone accounts, as well as return airfares, and Overseas Student Health Cover (OSHC) when you plan your budget.

future-students.uq.edu.au/university-life/living-in-brisbane/cost-living

“Studying at an international university can be challenging and you may be worried, like I was, about handling the transition but please be assured your lecturers, tutors and peers are always there to help.”

Grace Loo
Bachelor of Veterinary Science (Honours)

UQ has more than 20,000 international students from 142 countries
Applying to UQ

Follow the steps to apply to UQ and start on the path to your future.

**STEP 1**
Choose your program
- Read your program options (see pages 11–42)
- Visit future-students.uq.edu.au.

**TIP:** Check that you meet eligibility, merit and other entry requirements and meet any specific program deadlines.

A range of study area guides and other UQ publications can help you choose the right program.
future-students.uq.edu.au/publications-and-forms

**STEP 2**
Apply via QTAC
Apply for admission to UQ undergraduate programs through the Queensland Tertiary Admissions Centre (QTAC). The QTAC website explains how to apply and the entry requirements you need.
List up to six program preferences. You’ll only receive one offer – for the highest preference you’re eligible for. Place programs in order of preference, placing your dream program first and your back-up options next.

**STEP 3**
Accept your offer
1. Log in by clicking ‘Applications’ and then ‘Apply or Log In’ at qtac.edu.au.
2. Select ‘Log In’ and enter your details.
3. Select the Accept offer option.
4. Accept your offer.
5. Activate your student account.
6. Go to my.uq.edu.au/starting-at-uq and follow the instructions.
7. Get excited about starting at UQ.

**STEP 4**
Enrol in courses
1. Access your program rules, course list and other helpful information by logging in to my.uq.edu.au/starting-at-uq.
2. Choose your courses at my.uq.edu.au/programs-courses.
3. Enrol online at sinet.uq.edu.au.
4. Select preferred class times via My Timetable (in my.UQ portal)
5. Pay fees (see page 45).

**STEP 5**
Prepare for Week 1
- Complete the steps on the Starting at UQ website.
  my.uq.edu.au/starting-at-uq.
- Attend a Getting Started session.
- Check if you need to attend any program sessions before Orientation Week.
- Pick up your student ID card after you have enrolled.
- Get answers to any remaining questions before classes start by emailing starting@uq.edu.au.

**STEP 6**
Let’s go!

Get ready for the ultimate university experience
- Prep Week – jump-start your university journey.
- Orientation Week – get your first taste of #uqlife with fun-filled events
- Connect Week – join the social scene, make new friends and link in with your academic circle.
- Culture Week – experience UQ’s diverse culture and global networks.
- Success Week – learn about the resources available to help you succeed at UQ.
- Instagram (@uniofqld) or Snapchat (uniofqld) your UQ experience to your friends.

* This information applies to domestic students. If you are an international student, please visit future-students.uq.edu.au/admissions.
Study options

UQ offers more than 140 exciting undergraduate programs to help build your dream career. For more details, check out our range of publications, or go to future-students.uq.edu.au

### Arts, Humanities, Social Sciences and Education
- Advanced Humanities (Honours)
- Arts
- Communication
- Criminology and Criminal Justice (Honours)
- Education (Primary)
- Education (Secondary)
- International Studies
- Journalism
- Music (Honours)
- Politics, Philosophy and Economics (Honours)
- Social Science

### Health, Behavioural Sciences and Medicine
- Biomedical Science
- Clinical Exercise Physiology
- Dental Science
- Exercise and Nutrition Sciences
- Exercise and Sport Sciences
- Health Sciences
- Health, Sport and Physical Education
- Medicine
- Midwifery
- Nursing
- Occupational Therapy
- Pharmacy
- Physiotherapy
- Psychological Science
- Social Work
- Speech Pathology

### Business, Economics and Law
- Advanced Business (Honours)
- Advanced Finance and Economics (Honours)
- Business Management
- Commerce
- Economics
- Laws (Honours)
- Politics, Philosophy and Economics (Honours)
- Tourism, Hospitality and Event Management

### Science, Mathematics, Agriculture and Environment
- Advanced Science
- Agribusiness
- Agricultural Science
- Biomedical Science
- Biotechnology
- Environmental Management
- Environmental Science
- Equine Science
- Mathematics
- Occupational Health and Safety Science
- Science
- Veterinary Science
- Veterinary Technology
- Wildlife Science

### Engineering, Design, Computing, Architecture and Planning
- Architectural Design
- Computer Science
- Design
- Engineering (Honours)
- Information Technology
- Regional and Town Planning

### Central guides
- Australian Undergraduate (pictured left)
- International Undergraduate and Postgraduate
  (International students can visit future-students.uq.edu.au/teachers-guidance-counsellors to access the latest international student guides)
Have a question about programs in this Guide?

Faculty of Science – St Lucia campus
+61 7 3365 1888
enquire@science.uq.edu.au
science.uq.edu.au

Faculty of Science – Gatton campus
+61 7 5460 1276
enquire@science.uq.edu.au
science.uq.edu.au

Have a question about living and studying at UQ?

Contact the Future Students Contact Centre
+61 7 3346 9872
ask@uq.edu.au
future-students.uq.edu.au

Have a question about entry requirements and admission to UQ?

Contact UQ Admissions
+61 7 3365 2203
admissions@uq.edu.au
future-students.uq.edu.au/admissions

Key dates

Tertiary Studies Expo (TSXPO)
RNA Showgrounds
Saturday and Sunday 16-17 July 2022

UQ Open Day 2022
St Lucia campus Sunday 7 August 2022
Gatton campus Sunday 21 August 2022

Semester 1, 2023
Classes commence
Monday 20 February 2023

CRICOS Provider 00025B

Disclaimer

The information in this Guide is accurate as at January 2022. However, the University has many programs and courses, and refreshes and updates its programs and course offerings from time to time and without notice. It is your responsibility to visit future-students.uq.edu.au for up-to-date information.

All costs and fees quoted in this publication are in Australian dollars (A$).