postgraduate coursework programs in science

Technological advances in product development, science, research and finance have generated a wealth of career opportunities for skilled graduates in statistics, mathematics and physics.

Our postgraduate programs in Science provide advanced theoretical and practical knowledge in the specialised scientific fields of mathematics, physics and statistics. Use these programs to extend your knowledge in a particular field or choose a new specialisation to expand your skills across these disciplines.

The Mathematics major will give you advanced knowledge and skills in mathematics and its applications. You can choose advanced level courses to learn about recent developments in a broad range of modern mathematics including analysis, algebra and combinatorics, applied mathematics, computational mathematics and statistics and probability. You will also develop skills in modern applications of mathematics in areas such as coding and cryptology, bioinformatics, mathematical physics and ecology, computational science and visualisation and financial mathematics.

Physics plays a pivotal role in the education of and support for other disciplines, including agriculture, biology, chemistry, engineering and medicine. The Physics major is designed for students who have substantial background in physics at the undergraduate level and offers the opportunity to carry out research projects with nationally and internationally recognised experts in various research centres such as the Centre for Biophotonics and Laser Science, the Centres of Excellence for Quantum Computer and Communication Technology and Engineered Quantum Systems, the Centre for Hypersonics and the Centre for Mathematical Physics.

Statistics is the scientific application of mathematical principles to the collection, analysis, and presentation of numerical data. Statisticians contribute to scientific inquiry by applying their mathematical knowledge to the design of surveys and experiments, collection, processing, and analysis of data and interpretation of the results. The Statistics major will give you the theory and practical experience in the use of popular statistical and data analysis packages, as well as applied and theoretical statistics and probability theory. You will develop advanced skills in modern statistics so you will graduate ready to embark on a career as a professional statistician.
UQ Advantage
Choose our postgraduate programs in Science and you will learn at the School of Mathematics and Physics which is internationally recognised and our academic staff are leaders in their fields. The School is also home to three ARC Centres of Excellence and numerous other research groups.

Career opportunities
Our graduates are employed across a diverse range of fields and professions due to their high analytical and problem-solving skills.

Many of our Mathematics graduates study higher degrees and go on to research positions at universities and other major research institutions. Statistics, operations research and financial mathematics are most often used in industry, with the number of mathematicians employed in banking, finance, insurance and risk-management on the rise.

Our Statistics graduates are in high demand in business, industry, research and government, where they are employed in areas such as quality control, product development, asset and liability management and determining risks and returns of investments. Statisticians are employed by nearly every government department and in many scientific, medical, environmental, defence and agricultural agencies.

Our Physics graduates have robust, high-level analytical and problem-solving skills that are widely applicable and highly valued by a diverse range of employers including those in education, finance, engineering, computing and management. Many of our graduates are employed by governments in research and management positions, universities, health, research and nuclear physics.

Program structure

Graduate Certificate in Science
- 8 units (half year full-time or part-time equivalent)
Studies may be undertaken in the following specialisations:
- Mathematics
- Physics
- Statistics

Graduate Diploma in Science
- 16 units (1 year full-time or part-time equivalent)
Studies may be undertaken in the following specialisations:
- Mathematics
- Physics
- Statistics

Master of Science
- 16 units (1 year full-time or part-time equivalent)
- 24 units (1.5 years full-time)
Studies may be undertaken in the following specialisations:
- Mathematics
- Physics
- Statistics

Sample course list
- Financial mathematics
- Mathematical biology
- Quantum physics
- Astrophysics
- Probability models and stochastic processes
- Clinical biostatistics

Entry requirements

Graduate Certificate in Science
Bachelor degree in mathematics; physics; statistics or an approved discipline.

Graduate Diploma in Science
Bachelor degree in mathematics; physics; statistics or an approved discipline.

Master of Science (#16)
Bachelor degree in mathematics; physics; statistics or an approved discipline.

Master of Science (#24)
Bachelor degree in mathematics; physics; statistics or an approved discipline.

How to apply

International applicants
Information about application procedures for international students can be found at www.uq.edu.au/international-students/application-instructions

Domestic applicants
Complete the online application form at www.uq.edu.au/study

Time of publication: Every effort has been made to ensure the accuracy of information in this document at the time of publication. The authoritative source of program and course information is the UQ Courses and Programs website at uq.edu.au/study. Where any conflict of information exists, the rules and associated course lists approved by the UQ Senate shall apply.

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E: study@uq.edu.au  P: +61 3 8676 7004

Enquiries – Australian students
E: science.enquiries@uq.edu.au  P: 07 3365 1888

After working as a software developer for 15 years, Jason Werry decided to take his career in a new direction in 2010. Little did he know that he would be on his way to becoming a research mathematician just two years later. With a strong interest in the mathematics behind quantum mechanics, he chose to enrol in UQ’s Master of Science majoring in mathematics. During the program Jason worked on projects involving the latest research in mathematics, giving him the knowledge and confidence to take his studies one step further and to commence a PhD. Jason hopes to further contribute to the investigation of mathematical structures within quantum theories and to start a new career as a research mathematician.

Jason Werry
Postgraduate Coursework Programs in Science graduate