

Exciting career paths

"We will soon be launching our first two trials: one to assess the effect of aspirin and fish-oil in the prevention of thrombosis and the other to study the use of wound gel to prevent catheter-associated infections.

I did not have a health or statistics background and found it extremely satisfying to master concepts that grew in complexity and challenge after each unit. The program is highly valued by employers, many of whom are closely involved in its development.

Biostatisticians are in huge demand, especially as the emphasis on evidence-based medicine grows and advances are made in genetics. I work with highly motivated and creative people and enjoy the feeling that the trials we create may make a big impact on medical practice and people's health worldwide. It's an engrossing experience."

Charles Thompson, Master of Science (Statistics) student, Biostatistician, Australasian Kidney Trials Network, Princess Alexandra Hospital



Edward Tong

"I work in healthcare acquired infection (HAI) research, primarily in risk factor studies. My colleagues and I estimate the economic cost of HAI and implement statistical process control for the surveillance of HAI in all Queensland public hospitals.

UQ's Biostatistics program is taught by experts renowned in Australia and around the world. The program emphasised the analysis of real - that is, imperfect - datasets, so is great preparation for working life. And studying by distance was great. It meant I was able to learn from top biostatistics experts from around the country while still enjoying online class discussions with fellow students who shared insights from their own jobs.

A career in biostatistics is a rewarding one that allows you to make important contributions to many fields of research and development. Opportunities are plentiful and determined by your own personal interests."

Edward Tong, 2007 graduate, Statistician, Centre for Healthcare Related Infection Surveillance & Prevention, Princess Alexandra Hospital, Brisbane

More information

This brochure is a guide only. For more information and specific details on entry requirements, visit www.sph.uq.edu.au, email enquiries@sph.uq.edu.au or telephone (07) 3365 5345.

School of Population Health

Since its inception in 2001, The School of Population Health has established itself as a leading centre of public health research that, by influencing health care reform both in Australia and abroad, can improve the lives of people around the world.

The School has an international reputation for research and teaching excellence in epidemiology, biostatistics, tropical and international health, nutrition, burden of disease and cost-effectiveness analyses.

Collaborations with other institutions contribute enormously to the School's research and teaching programs and are key to its ability to improve population health outcomes in Queensland, Australia and abroad. The School enjoys strong external partnerships, particularly with Queensland Health and the Commonwealth Department of Health and Ageing, and maintains extensive links with the World Health Organization and The World Bank. School staff members are working on projects with partners in many countries, particularly in South East Asia. The School of Population Health is based at Herston, approximately two kilometres from the Brisbane city centre.

The University of Queensland

The 2008 Good Universities Guide awarded UQ the best ratings of any university in Queensland, and one of the very best in the country. UQ is also a founding member of the Group of Eight (Go8). This elite group of Australian universities collectively enrolls a third of all university students and conducts 70% of all university research in Australia. Go8 graduates boast a full-time employment rate almost 5% above that of other Australian universities.

UQ is one of only three Australian members of Universitas 21 - a select international network of comprehensive, research-intensive universities committed to world-best quality and practice.



POSTGRADUATE PROGRAMS IN Biostatistics



Biostatistics uses data to measure, understand and ultimately solve medical problems.

This exciting and versatile discipline is contributing to all fields of medical research and evidence-based health care. The Biostatistics program is part of the Biostatistics Collaboration of Australia and is completed entirely by distance.

Health detectives

If you like collecting and studying information, forecasting and drawing conclusions, biostatistics may offer the perfect health career for you.

It combines mathematical theory with knowledge of the specific challenges arising in different areas of science, making it a rewarding field of study for students who like maths and quantitative problems and want to contribute to the advance of broader scientific understanding. Biostatisticians typically work in four main areas of medical research:

- Laboratory research studies to understand disease processes or pharmacological effects of new drugs
- Epidemiological studies to identify factors that increase disease risk (eg. influence of smoking on heart disease)
- Clinical trials to evaluate new drugs, procedures or treatment methods
- Health services research to evaluate the effectiveness of new modes of health care

They may find themselves estimating the number of deaths from drug overdose or determining trends in injuries from falls. Other tasks may include:

- analysing the effectiveness of new drugs
- analysing risk factors for different illnesses
- planning health care interventions
- explaining biological phenomena

Comprehensive training

This program provides advanced biostatistical training for a diverse range of students. Many with health sciences backgrounds gain sophisticated statistical skills, while those with mathematical degrees will further their understanding of health issues, and the application of statistics in the field.

The main requirement is an aptitude for mathematics. The program includes units designed to provide the background in mathematical and statistical theory to those without a first degree in these fields. A unit in epidemiology introduces those unfamiliar with research in population health to its basic concepts and methods of investigation.

Biostatistics Collaboration of Australia

The Biostatistics program at UQ is run as part of the Biostatistics Collaboration of Australia (BCA), the country's leading group of biostatisticians.

The BCA is a consortium of biostatistical experts from around Australia with representatives from universities, government and the pharmaceutical industry. By combining the best talents from around the country, the BCA has developed a focused curriculum with a mission to provide Australia with well-trained professional biostatisticians. More information can be found at www.bca.edu.au

Programs offered

Graduate Certificate in Science (Statistics)

1 semester (full-time equivalent), 8 units (four courses), start semester 1 or 2

Graduate Diploma in Science (Statistics)

2 semesters (full-time equivalent), 16 units (eight courses), start semester 1 or 2

Master of Science (Statistics) (coursework only*)

2 semesters (full-time equivalent), 16 units (eight courses), start semester 1 or 2

Master of Science (Statistics) (coursework/research)

3 semesters (full-time equivalent), 24 units (12 courses), start semester 1 or 2

* eligible students only.

Biostatistics courses

PUBH7600	Introduction to Epidemiology
STAT7601	Mathematical Background for Biostatistics
STAT7602	Health Indicators & Health Surveys
STAT7603	Data Management & Statistical Computing
STAT7604	Principles of Statistical Inference
STAT7605	Clinical Biostatistics
STAT7606	Design of Experiments & Clinical Trials
STAT7607	Linear Models
STAT7608	Categorical Data & Generalised Linear Models
STAT7609	Survival Analysis
STAT7610	Longitudinal & Correlated Data
STAT7611	Bioinformatics & Statistical Genetics
STAT7612	Clinical Trials & Meta-Analysis
STAT7613	Bayesian Statistical Methods
STAT7614	Probability theory and distributions
STAT7620	Thesis in Biostatistics (eight units) (students commencing semester 1)
STAT7621	Thesis in Biostatistics (eight units) (students commencing semester 2)
STAT7622	Project in Biostatistics (four units)

A world of opportunity

Biostatisticians are in demand all over the world. As emphasis on public health increases, so too does the need for professionals with biostatistical training to understand the cause, natural history and treatment of a disease.

The skills of biostatisticians are crucial when establishing health studies and trials and analysing and interpreting their results. And as science progresses and new ways to measure and collect information become possible, biostatisticians face the exciting challenge of developing new statistical techniques.

Pathway to a research career

Particularly designed for those interested in a research or academic career, the 24-unit Master of Science allows students to undertake a practical work-based project or a dissertation. This is the ideal pathway to enter the PhD program.