MA in Statistics
UCD School of Mathematical Sciences

Why is this course for me?

This programme is intended for students with a numerate background but who may have insufficient background knowledge to gain entry to the MSc programme. The MA in statistics is of 16 months durations (4 semesters) and will bring students to the same level as the 1 year MSc degree in Statistics.

Currently students without sufficient statistical background knowledge can attain Masters level proficiency by first completing the Higher Diploma in Statistics followed by the MSc in Statistics, which together takes 2 years. The MA in Statistics provides an alternative pathway in 16 months. There is no comparable programme in Ireland or the UK. The M.A. in Statistics consists of a mixture of compulsory and optional modules and a major project. Compulsory modules are intended to ensure all students have appropriate basic statistical skills, knowledge and experience, while optional modules provide depth and exposure to the diverse range of statistical applications and methods. This latter aspect provides students with the opportunity to specialize in specific areas. The major project provides the students the chance to work extensively on either a theoretical or practical problem. An M.A. in Statistics should open a host of interesting and rewarding career opportunities and give skills that are much in demand. For example, former M.Sc. in Statistics students have found employment in industry, government, IT, economics and finance. Demand for graduates continues to be strong both in Ireland and abroad. The M.A. is also intended to be a good stepping stone for doctoral studies.

Why study at University College Dublin?

Some of the reasons to study at UCD:

- In the top 2% of the world's universities
- Ireland's largest provider of graduate education
- A diverse university, both in academic disciplines and culture
- Emphasis on research and innovation
- Purpose-built, modern parkland campus, close to Dublin city centre
- Extensive range of campus accommodation options.

UCD College of Science

The College is dedicated to the creation, delivery and communication of new knowledge and innovation across the spectrum of Science. With a staff of 750 and a student population of 5500 including 1800 postgraduate students, the College is a vibrant community dedicated to excellence in all our pursuits.

UCD School of Mathematical Sciences

The school is the largest of its kind in Ireland. It is a dynamic, multi-disciplinary department spanning the three disciplines of Mathematics, Applied and Computational Mathematics and Statistics and Actuarial Science. The school engages in research of international renown and teaches students in almost all of the colleges of the university. As well as having a strong commitment to basic research, several members in the school are involved in the UCD Complex Adaptive Systems Laboratory (CASL) and the Claude Shannon Institute for Coding, Cryptography and Discrete Mathematics.

What will I study?

You will study from a range of exciting topics taught by experts in these fields of study. There are 120 credits of work to do spread over four semesters. The first two semesters involve taking nine 5-credit modules (45 credits) from the Higher Diploma in Statistics programme and two modules at 7.5 credit (15 credits) from the M.Sc. in Statistics programme. The third semester involves a 30 credit dissertation or data analytic project. The fourth semester involves taking four modules at 7.5 credits (30 credits) at level 4 from the M.Sc. in Statistics programme.

Modules offered change from year to year and the list includes:

- Linear Models
- Data Mining
- Time Series
- Multivariate Analysis
- Experimental Design
- Mathematical Statistics
- Monte Carlo inference
- Actuarial Statistics
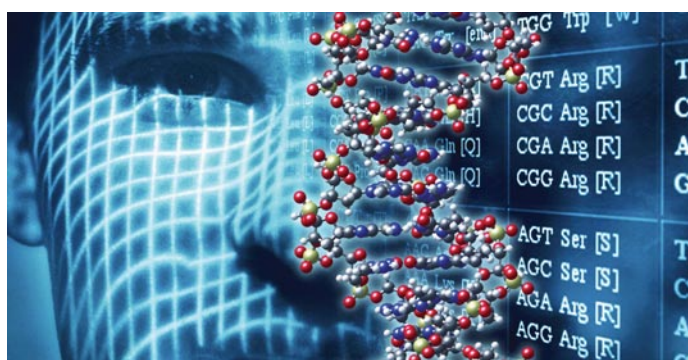- Survival Analysis
- Stochastic models
- Bayesian analysis

Research - Dissertation

In addition to the course work, students undertake a research project (30 credits) supervised by a member of staff. The dissertation is a fairly substantial piece of work completed in the summer semester.

Programme outcomes

On successful completion of the programme students will:

- be able to demonstrate in-depth understanding of statistical concepts, apply basic statistical reasoning, techniques and models in the analysis of real data and employ technical computing skills;
- have learned from experiences gained in different contexts and how apply knowledge across discipline boundaries to solve problems;
- developed excellent presentation skills;
- appreciate the importance of professional development and the resources available to keep up to date with new developments in the field;
- have acquired a much sought after qualification that can be applied to a wide variety of careers.

What are the career opportunities?

Career prospects on completion of the M.Sc. in Statistics are excellent and the M.A. in Statistics provides an equivalent qualification. Many students pursue careers in the pharmaceutical industry (e.g. Elan, Quintiles). Students also enter careers in banking , finance and risk management. There is increased demand for statisticians from the IT sector (e.g. Google, Intel, data mining companies). In addition many government departments employ statisticians including the Central Statistics Office. Some past students embarked on a career in academia by proceeding to study for a Ph.D. in Statistics

Staff Profile and Testimonial

Staff

Dr. Gabrielle Kelly

(Statistics and Actuarial Science)

"Advances in GIS means that geographical coordinates of subjects or units of measurement are now available in many studies. My current interest is in the field of spatial statistics, a term used to describe a wide range of statistical methods and models intended for the analysis of spatially referenced data. These models can describe, for example, how relationships between different measurements vary over space and if observations cluster in space. They can also be useful in constructing maps of spatial variation.

I have developed spatial models for the spread of bovine TB in cattle and wildlife badgers. Such models help determine important epidemiological parameters and inform policy in the control of the disease. I also supervise research students in the area of forestry. Important questions here include determining via spatial models how the proximity of trees to each other affects their growth and how this varies with species and mixtures of species, with the aim of assisting in efficient forest management."

Dr. Gabrielle Kelly was educated in UCC and Stanford and has worked in University College London, Columbia University and UCC. She has been in UCD since 1990 where she is the Director of the Taught Postgraduate Programmes in Statistics.

Her research funding includes grants from SFI and the Department of Agriculture, Forestry and Food.

How do I apply?

Entry Qualifications

Our standard admissions requirement is at least a 2.1 honours degree in mathematics, economics, finance, certain engineering degrees or similar quantitative disciplines where statistics has formed some component of the degree. However in exceptional circumstances we will consider applications from students who do not satisfy these requirements but can demonstrate an interest and ability in statistics.

Alternatively students may qualify for enrolment to the Higher Diploma Statistics from which they can gain entry to the 1-year M.Sc. in Statistics.

Contact

Any queries about the courses should be directed to the Graduate Administrator pgstudies@maths.ucd.ie ; Tel. +353-1-716 7152).

Applying Online

To apply online, please go to: http://www.ucd.ie/apply

Fee Information

For information on fees, please visit: www.ucd.ie/registry/adminservices/fees

Useful Links

For more information please visit the website:
http://www.ucd.ie/graduatestudies/coursefinder/taughtprogrammes/