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Postgraduate Virtual **Open Days**

Introduction to the Statistics MSc programmes



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Welcome to Edinburgh

- Historic and cultured city of breath-taking beauty and world-class attractions
- Population of 500,000, around one tenth are students
- Year-round destination and festival city
- UNESCO World Heritage Site



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School of Mathematics

- We are located in the James Clerk Maxwell Building at the King's Buildings campus in south Edinburgh.
- This is about 2.5km from main campus.
- About 35 min walk, 20 min bus, 10 min cycle.

- Around 140 academic research and teaching staff and over 150 PhD students.
- Around 1000 undergraduate students.
- Around 250 MSc students each year, of which over 80 study a Statistics MSc.



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Statistics MSc: Student cohort

- Super cosmopolitan cohort
- This year our students are from:
 - Azerbaijan
 - China
 - Cyprus
 - Denmark
 - Germany
 - India
 - Indonesia
 - Ireland
 - Italy
 - Japan
 - Malaysia
 - Poland
 - Saudi Arabia
 - Spain
 - Taiwan
 - Thailand
 - United Kingdom
 - United States of America



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Why study a Statistics MSc?

Key features:

- Theoretical Statistics: you will develop a deeper understanding of the fundamental principles underpinning modern statistics
- Applied Statistics: you will enhance your skills of data analysis and modelling
- Career prospects



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How is an MSc different to UG study?

- More intense-one year degree
- Full 12 months of study
- More focused
- Specialising in one area of mathematics
- 180 credits in a year instead of 120
- Substantial dissertation component



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MSc structure

Taught courses (Semesters 1 & 2)

- Core courses covering both theory and application
- Optional courses allow you to specialize in areas of particular interest

Dissertation (Summer)

- In the summer you will work on open-ended research projects
- Usually projects are consultancy in nature, and provide valuable experience



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MSc structure

- Taught component: assessed on 120 credits of courses
- No more than 120 credits of courses
- No fewer than 120 credits of courses
- You may attend more than 120 credits of courses
- All courses are 10 to 20 credits



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Core courses

MSc Statistics with Data Science

- Semester 1
 - Bayesian Theory
 - Extended Statistical Programming
 - Generalised Regression Models
- Semester 2
 - Bayesian Data Analysis
 - Design and Sampling for Data Science
 - Statistical Research Skills

Core total = 70 credits



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Core courses

MSc Statistics and Operational Research

- Semester 1
 - Bayesian Theory
 - Generalised Regression Models
 - Fundamentals of Operational Research
 - Fundamentals of Optimization
 - Methodology, Modelling and Consulting Skills
 - Statistical Programming
- Semester 2
 - Simulation
 - Statistical research skills

Core total = 80 credits



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Sample optional courses (SwDS)

- Biostatistics
- Credit Scoring
- Incomplete Data Analysis
- Machine Learning in Python
- Methods for Causal Inference
- Python Programming
- Statistical Methodology



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Sample optional courses (SOR)

- Large Scale Optimization for Data Science
- Nonlinear Optimization
- Risk and Logistics
- Stochastic Modelling
- Theory of Statistical Inference
- Time Series
- Topics in Applied Operational Research



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A typical week

- Normally a semester consists of six 10 credit courses
- Each course has 2 hourly lectures followed by an hour of tutorials every second week
- Computationally intensive courses contain computer practicals (number of hours vary from 5 to 15)
- Average has circa 18-20 contact hours



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Sample timetable (SwDS Semester 1)

	09:00-10:00	10:00-11:00	11:00-12:00	12:00-13:00	13:00-14:00	14:00-15:00	15:00-16:00	16:00-17:00	17:00-18:00
Monday					Python Programming lecture				Extended Statistical Programming lecture
Tuesday	Extended Statistical Programming workshop	Bayesian Theory lecture			Bayesian Theory workshop (every 2 nd week)			Generalised Regression Models workshop (every 2 nd week)	
Wednesday			Stochastic Modelling lecture		Generalised Regression Models lecture				Extended Statistical Programming workshop
Thursday						Extended Statistical Programming lecture			
Friday	Stochastic Modelling workshop (every 2 nd week)				Python Programming workshop		Generalised Regression Models workshop (every 2 nd week)		

Dissertation

- After completing the taught part of the MSc, then in June you start working on your dissertation project (60 credits)
- The dissertation takes the form of
 - two consultancy-client projects for **SwDS**
 - a traditional MSc dissertation for **SOR**
- where a challenging problem is presented by the client and the student address a major aspect of the problem, with further guidance available in the form of weekly drop-in sessions.



Examples of previous dissertation projects

- Forecasting UK electricity demand
- How does DNA sequence specify gene expression in a timecourse of fungal growth?
- Charting the Impact of Bilingualism on Language and Cognitive Development in Autistic Children ([NHS](#))
- Cancer Genomics ([Cambridge Cancer Genomics](#))
- Reselling second-hand items: Identifying the likelihood of stuff being sold online ([Thrift](#))
- Neural De-Duplication and Record Linkage ([Amazon](#))



Support during your studies

- Student support
 - Student Advisers
 - Academic Cohort Leads
 - Advice on study technique
 - Employability/careers guidance
 - General pastoral support
- MSc community
 - MScHub dedicated study space
 - MScBase study support from tutors
 - MathSoc



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Careers in Statistics

- Medical and health sector
- Pharmaceutical
- Government statistics
- Finance/Insurance/Marketing
- Software development
- Data Science
- Sports industry
- ... and, of course, Academia!



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Tips for MSc study

- Statistics MSc programmes have a high workload
 - Good time management is important
 - Start assignments when they are issued...not just before they are due!
- If you do not you will be
 - Very busy at the end of first semester
 - Even busier at the end of the second semester
- This will depend on your choice of your optional courses
- Being proactive is essential. If you have no assignments
 - Revise lectures
 - Work on examples
 - Study textbooks
- But also...remember to make the most of your MSc year in Edinburgh!



How to Apply

- Apply using the [University's Degree Finder](#)
- No application fee
- You will need to provide: personal statement, details of relevant knowledge/training skills, degree certificates and academic transcripts, evidence you meet English language requirements, one reference
- If documents are not in English, certified translations must be provided

Round	Application deadline	Decisions made or applications rolled to the next deadline
1	15 December	1 March
2	31 March	31 May
3	31 May	31 July



Scholarship opportunities

- [School of Mathematics Masters Scholarships](#) – 25% or 50% tuition fee discount
 - Various countries eligible
- [British Council GREAT Scholarships](#) - £10,000
 - Ghana, Mexico, Thailand
- [European Merit Scholarship](#) - £10,000
 - France, Germany, Spain
- [India Merit Scholarship](#) - £5,000



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Now over to our
alumni...

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Riahn Holcomb-Selbert

- From: United States of America
- Programme: MSc Statistics with Data Science
- Year of graduation: 2023
- Current Role: Statistical Programmer at Quantics Biostatistics



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Q&A

Type your questions into the chat area

Next steps...

- Programme-specific info: <https://postgraduate.degrees.ed.ac.uk/>
- Chat to our Students: <https://edin.ac/student-chat-pg>
- Any other questions (including, Fees & Admissions) email: futurestudents@ed.ac.uk



Read our students' blogs at
blogs.ed.ac.uk/studentstories



Contact details for follow-up questions

- We apologise if we did not get through all of your questions in the time allotted for this session. If you have further questions that have not been answered, please email: futurestudents@ed.ac.uk



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Thank you

Further questions?

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