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Introduction to the Operational Research MSc programmes

Dr Akshay Gupte | 12 November 2024

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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 100 academic research and teaching staff and over 145 PhD students.
- Around 2000 undergraduate students.
- Around 200 MSc students each year, of which around 50 study an OR MSc programme.



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OR MScs: Student cohort

- Super cosmopolitan cohort
- This year our students are from:
 - Azerbaijan
 - Belgium
 - China
 - Democratic Republic of the Congo
 - Germany
 - Ghana
 - India
 - Ireland
 - Kenya
 - Nigeria
 - Norway
 - Oman
 - Poland
 - Qatar
 - Singapore
 - Thailand
 - Tunisia
 - Turkey
 - United Kingdom
 - USA



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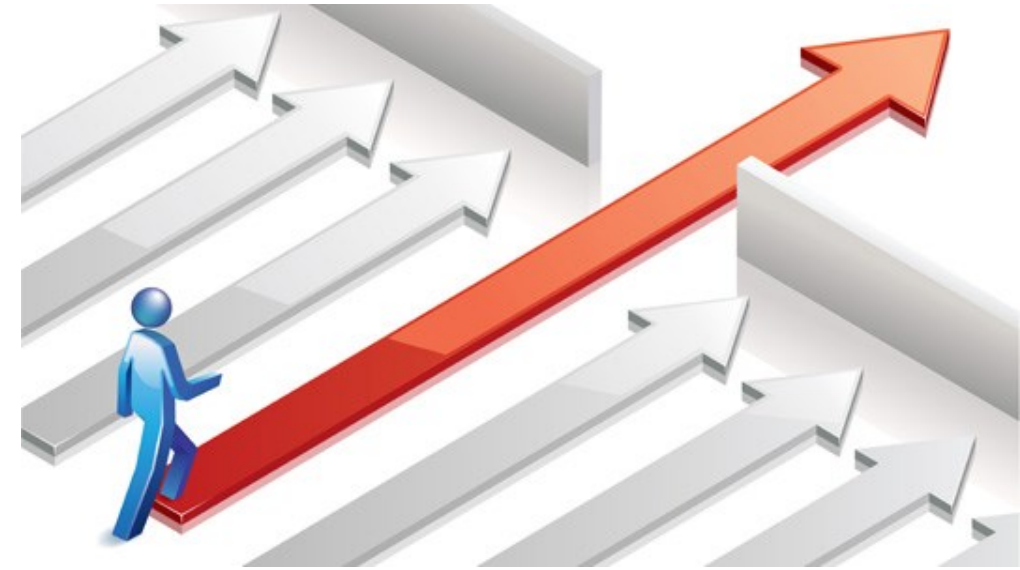
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The Operational Research MSc programmes

- Operational Research (OR)
- OR with Risk
- OR with Data Science
- OR with Computational Optimization

What else is OR?

- OR is also known as Operations Research
- OR contains
 - Management Science
 - Decisions Sciences
 - Operations Management
 - Business Analytics



Programme structure

- Semester 1
 - Compulsory technical courses in OR, Optimization and modelling
 - Optional courses in computing and statistics (OR/ORwR/ORwCO)
 - Optional courses in computing and informatics/statistics/ML (ORwDS)
- Semester 2
 - Theme-specific optional courses
 - Significant overlap in theme requirements
 - OR/ORwR/ORwCO students can take an ML course
 - ORwDS students can take more informatics courses
- Dissertation
 - External or academic
 - Varied external projects: industry/government



Sample optional courses

- Statistical programming
- Generalised regression models
- Machine learning in python
- Statistical methodology
- Topics in applied operational research
- Biostatistics
- Credit scoring
- Optimization methods in finance



Sample timetable (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		Methodology, Modelling and Consulting Skills lecture				Fundamentals of Operational Research lecture			Statistical Programming lecture
Tuesday	Stochastic Modelling lecture	Statistical Methodology lecture			Fundamentals of Operational Research workshop (every 2 nd week)	Statistical Programming workshop			
Wednesday				Stochastic Modelling lecture		Fundamentals of Optimization workshop (every 2 nd week)			
Thursday			Fundamentals of Optimization lecture			Statistical Programming lecture			Statistical Programming workshop
Friday		Statistical Methodology lecture	Stochastic Modelling workshop (every 2 nd week)		Statistical Methodology workshop (every 2 nd week)	Methodology, Modelling and Consulting Skills workshop			



Employability

- The skill set of an OR MSc graduate is very attractive to employers
 - Some are looking for OR skills specifically
 - Others recognise OR skills as valuable for non-OR positions
- There is a shortage of people with OR skills in the UK
 - Our UK/EU graduates get exciting job offers
 - Our best overseas students stay on
 - New 2-year post-study work visas

Contacts

- Presentations/workshops by OR employers
- Many staff have industrial contacts
- Dissertation projects can lead to job offers
- Former OR students are everywhere!



PhD opportunities

- About 15% of our graduates go on to PhD studies
- Half the Optimization and OR PhD Students are OR MSc graduates



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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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Q&A

Type your questions into the chat area

<https://virtualvisits.ed.ac.uk/pg>

A colorful, stylized map of Edinburgh, Scotland, showing the city's layout, major roads, and landmarks. The map is oriented with the Firth of Forth at the top. Key features include: the South Queensferry and Queensferry Road crossing the Firth; the River Forth flowing through the city; major roads like George Street, Princes Street, and the A1; and various landmarks such as the Royal Palace, the Scottish Parliament, the Edinburgh Castle, and the Arthur's Seat. The map also shows the surrounding areas of Portobello, Holyrood Park, and the Pentlands.



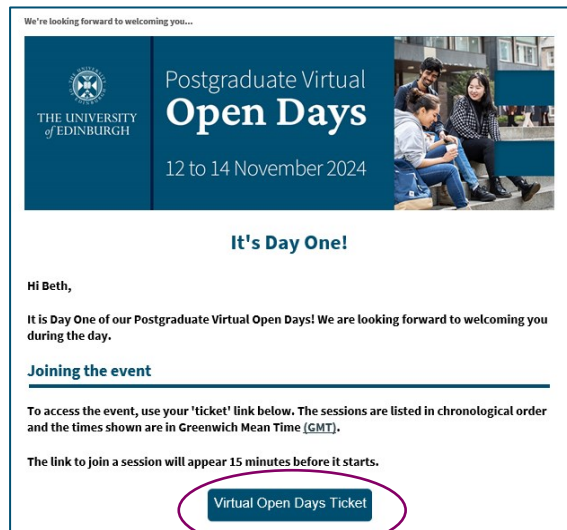
Contact details for follow-up questions

- 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

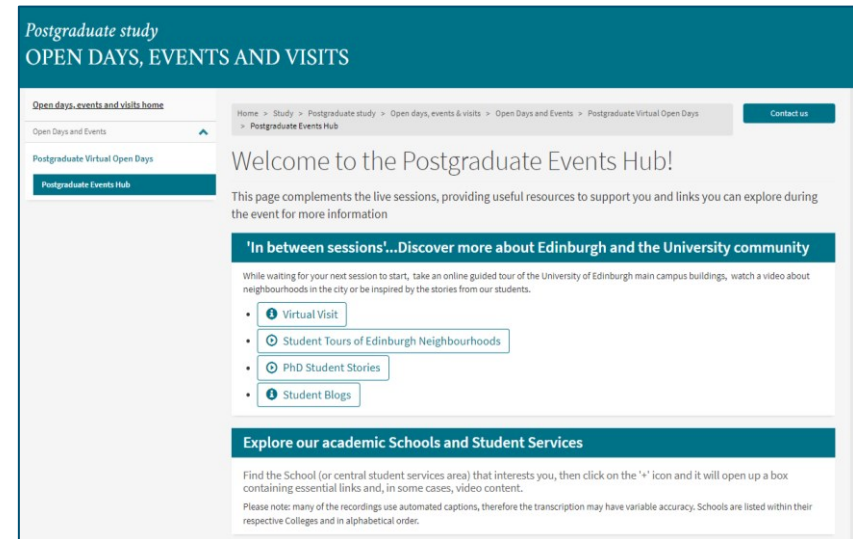


Thank you – click ‘Leave’ when the session ends

- Return to your ‘e-ticket’ to find and attend other sessions you’ve booked – by clicking on the button in the email we sent you...



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- <https://edin.ac/4gZuP3G>



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Thank you

Further questions?

futurestudents@ed.ac.uk

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