Welcome to the School of Business and Economics

Maastricht University

MSc Econometrics and Operations Research

Applying mathematical methods to economic problems

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Maastricht University

Why should you choose Econometrics and Operations Research?

- Be interested in applying mathematics and statistics to economics and business
- High quality courses
- Small group teaching
- Excellent career perspectives
- Use of dedicated software
- Close links to the corporate world

What will you learn? (1)

Improve economic decisions in business and the public sector

- Apply, improve and develop models based on mathematics and statistics
- Implement the models using existing or newly developed computer software
- Instantiate the computer models with data and interpret the results
- Control for robustness and sensitivity of the model

What will you learn? (2)

Four specialisations:

- Actuarial Sciences
- Econometrics
- Mathematical Economics
- Operations Research

Also the flexibility to select a curriculum according to your own wishes

What is the programme structure? (1)

Block	Econometrics and Operations Research	
1	Stochastic Processes	Game Theory and Optimisation
2	Choice course	Choice course
3	Skills Training	

What is the programme structure? (2)

Block	Econometrics and Operations Research	
4	Choice course	Writing the Master's Thesis
5	Choice course	
6	Completing the Master's Thesis	

NB. The details of this programme could change; before applying, please check www.maastrichtuniversity.nl/sbe for the latest information.

What is the programme structure? (3)

At least three out of four choice courses should be chosen from the list of E&OR core courses:

- Time Series Methods and Dynamic Econometrics
- Life Insurance I
- Life Insurance II
- Mathematical Finance
- Econometrics Methods for Cross-Sectional and Panel Data
- Empirical Analysis of Financial Markets
- Social Choice Theory
- Industrial Economics
- Equilibrium Theory and Financial Markets
- Algorithms and Optimisation
- Modelling and Solver Technology
- Operations Research Applications
- High-Dimensional Econometric Methods for Big Data

Preview

What is the programme structure? (3)

At most one out of four choice courses should be chosen from the list of other Elective courses:

- Capita Selecta Quantitative Economics
- ECB and Monetary Policy
- Growth and Innovation in Europe
- Open Macroeconomics in a Global Society
- Risk Management
- Supply Chain Operations
- Supply Chain Strategy

Specialisation: Actuarial Sciences

Applying mathematics and statistics to assess risks in insurance and finance

Core courses:

- Stochastic Processes
- Time Series Methods and Dynamic Econometrics
- Life Insurance I
- Life Insurance II
- Mathematical Finance

Skills training:

- Topics in Computational Actuarial Methods
- Writing a Master's Thesis

Specialisation: Econometrics

Analysis and testing of economic relationships

Core courses:

- Stochastic Processes
- Time Series Methods and Dynamic Econometrics
- Econometrics Methods for Cross-Sectional and Panel Data
- Empirical Analysis of Financial Markets

Skills training:

- Topics in Computational Econometrics
- Writing a Master’s Thesis

Specialisation: Mathematical Economics

Modelling strategic behaviour

Core courses:

- Game Theory and Optimisation
- Social Choice Theory
- Industrial Economics
- Equilibrium Theory and Financial Markets

Skills training:

- Topics in Computational Econometrics
- Writing a Master's Thesis

Specialisation: Operations Research

Optimisation of business processes

Core courses:

- Game Theory and Optimisation
- Algorithms and Optimisation
- Modelling and Solver Technology
- Operations Research Applications

Skills training:

- Operations Research Software
- Writing a Master’s Thesis

Master’s Thesis

- Study a practical or theoretical problem within the track of your choice
- Combine your master’s thesis with an internship – this is strongly recommended!
- Support offered via the TIP program

Research Master: 2 years

- Includes more experience in doing research, both fundamental and executive.
- Prepares for a PhD
- Operations Research variant:
  - Part of the Business Research master
  - Year 1 is very similar to the OR variant of Ect&OR master (master's thesis is replaced by two electives, last skill is replaced by a hands-on research project)
  - Year 2 deepens OR knowledge with courses of the Dutch network LNMB in Utrecht. Master's thesis is 30 ECTS and can be fullfilled through an internship.

Research Master: 2 years

- Econometrics/Mathematical Economics research variant:
  - Part of the 2 years METEOR Research MSc in Economic and Financial Research
  - Year 1 is very similar to the Ect/MathEcon variant of Ect&OR master (master's thesis is replaced by two core courses of the research master and the last skill is replaced by a hands-on research project)
  - Year 2 is made out of the specialisation courses and electives from the EFR programme. The fourth semester is devoted to a 30 ECTS Master's thesis.

Is Econometrics and Operations Research right for you?

Have a solid knowledge in bachelor's level subjects which are fundamental for your choice of subjects in the master's programme

What are your career prospects?

- Top analyst positions in business or the public sector
- World class PhD programmes
- Academic, research and development careers
- Managerial careers
- Banks, insurance companies, policy advice
- IT development, IT consultancy
- Positions that have been reported by our alumni:
  http://scope-vectum.nl
  info@scope-vectum.nl

Careers of our alumni

MSc – Econometrics and Operations Research

72 graduates

Employed in 13 countries

Actuary

Analytical Consultant

Data Scientist

Financial Advisor

AEGON

Shell

ABN·AMRO

Centraal Bureau voor de Statistiek

Deloitte.

IBM

MSc graduates SBE Econometrics and Operations Research period 2004-2015

Careers of our alumni

MSc – Econometrics and OR Track Mathematical Economics

14 graduates
Employed in 3 countries

Analytical Consultant
Research Analyst
Risk Advisor
Sales Analyst

Deloitte.
MINISTRY OF FINANCE
KPMG
optiver value the difference
ING

MSc graduates SBE Econometrics and OR Track Mathematical Economics period 2004-2015

Careers of our alumni

MSc – Econometrics and OR Track Operations Research

14 graduates

Employed in 3 countries

Business Consultant

Software Engineer

Trading Innovation Manager

Technical Consultant

ABN·AMRO

MINISTRY OF FINANCE

KPMG

Deutsche Bank

Shell

MSc graduates SBE Economics and OR Track Operations Research period 2004-2015

Careers of our alumni

MSc – Econometrics and OR Track Econometrics

67 graduates

Employed in 14 countries

Business Intelligence Analyst

Econometrician

Consultant

Risk Analyst

Rabobank

Capgemini

MINISTRY OF FINANCE

ING

KPMG

Deloitte.

MSc graduates SBE Econometrics and OR Track Econometrics period 2004-2015

Maastricht University

Careers of our alumni

MSc – Econometrics and OR Track Actuarial Science

18 graduates

Employed in 4 countries

Actuary

Consultant

Investment Manager

Product Controller

DHL

Rabobank

AEGON

ABN·AMRO

Shell

MSc graduates SBE Econometrics and OR Track Actuarial Science period 2004-2015

Maastricht University

Further questions?

www.maastrichtuniversity.nl/sbe

- Contact
- Or visit us at the information market in the Mensa