

Welcome to the School of Business and Economics



MSc Econometrics and Operations Research

Applying mathematical methods to
economic problems

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Professor of Game Theory

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)

Five study profiles:

- Actuarial Sciences
- Econometrics
- Mathematical Economics
- Operations Research
- Data Science

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

What is the programme structure? (1)

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

What is the programme structure? (2)

<i>Block</i>	<i>Econometrics and Operations Research</i>	
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)

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
- Machine Learning
- Capita Selecta Quantitative Economics



Study profile: 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

Study profile: 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

Study profile: Data Science

Analysis of large data sets

Core courses:

- Game Theory and Optimisation
- Time Series Methods and Dynamic Econometrics
- (and/or Algorithms and Optimisation)
- High-Dimensional Econometric Methods for Big Data
- Machine Learning

Skills training:

- Operations Research Software
- Writing a Master's Thesis

Study profile: 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

Study profile: 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

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 fulfilled 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



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



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



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



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

Careers of our alumni

MSc – Econometrics and OR Track Actuarial Science



18 graduates
Employed in 4 countries



Actuary
Consultant
Investment Manager
Product Controller



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

Further questions?

www.maastrichtuniversity.nl/sbe

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