

MSc Econometrics and Operations Research

Maastricht University, School of Business
and Economics



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Today's Agenda

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Why this MSc?

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Our
programme

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Specialisations

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Student Profile

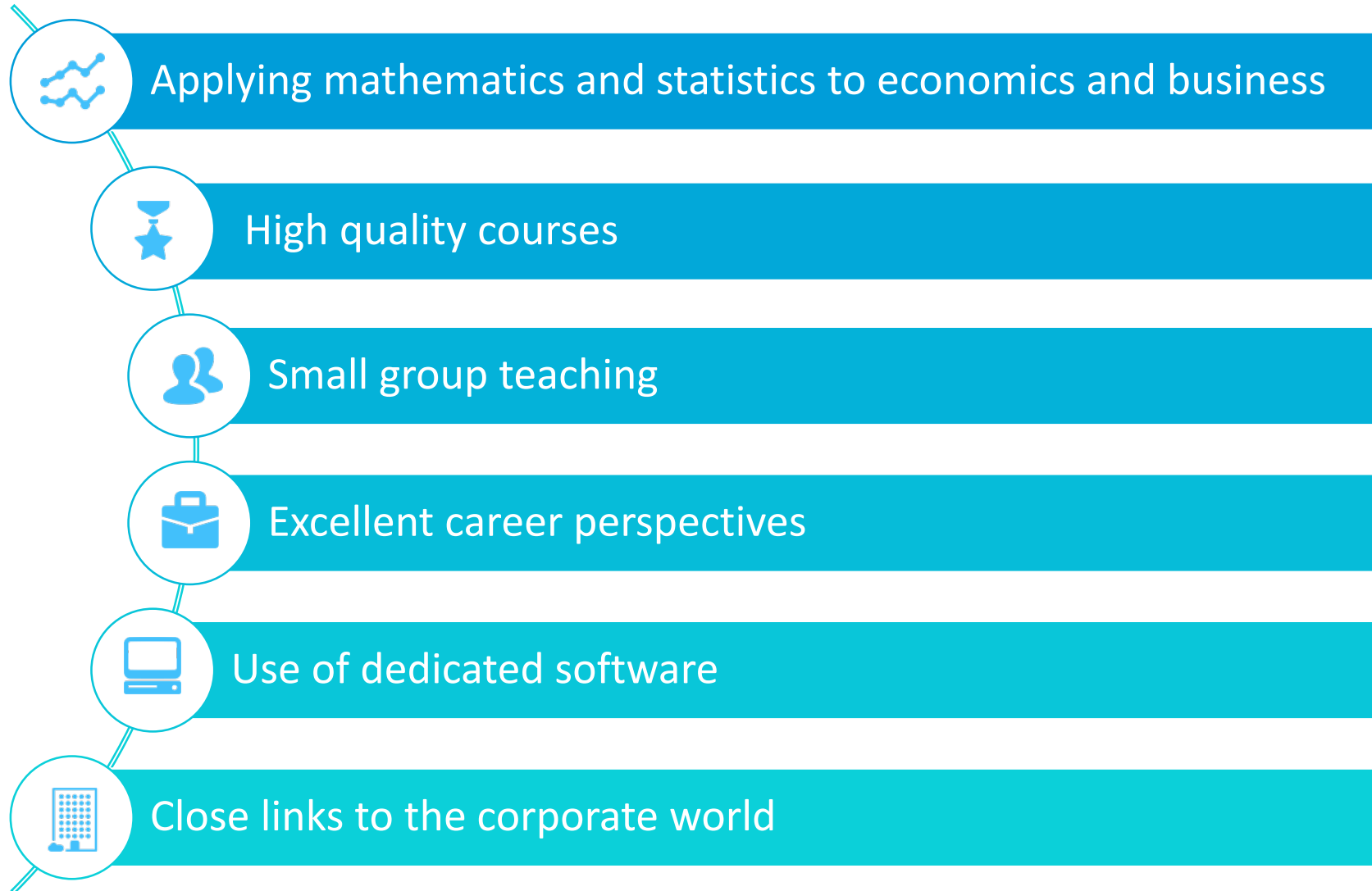
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What does the
future hold?

Why this
MSc?



Why Econometrics and Operations Research?





Our
Programme

What will you learn?

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

Specialisations

1. Actuarial Sciences
2. Econometrics
3. Mathematical Economics
4. Operations Research
5. Data Science



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

| <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 | |

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



A hallway with seven wooden doors set against a dark grey wall. The floor is dark wood and highly reflective, showing bright highlights from the doors. In the center of the hallway, there is a blue hexagon with a white border containing the word "Specialisations" in white text.

Specialisations

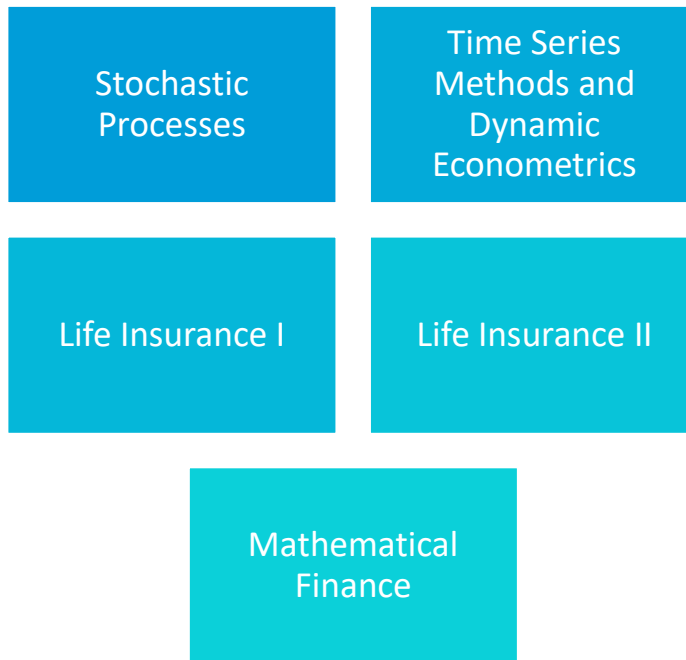
Specialisations

1. Actuarial Sciences
2. Econometrics
3. Mathematical Economics
4. Operations Research
5. Data Science

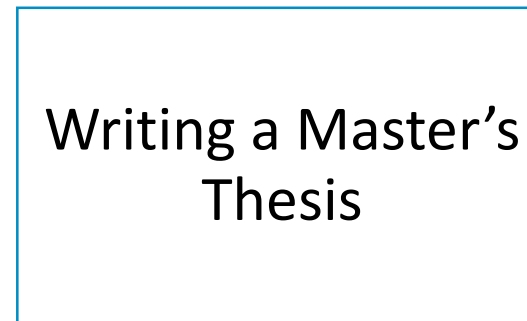
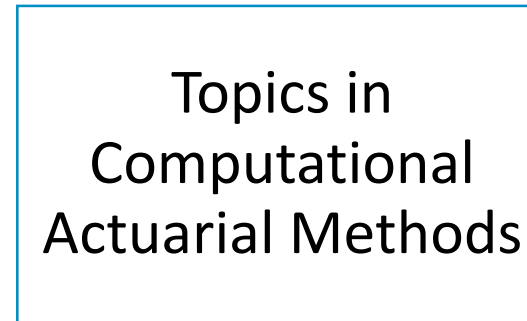


1. Actuarial Sciences

Applying mathematics and statistics to assess risks in insurance and finance



Core Courses



Skill Courses

2. Econometrics

Analysis and testing of economic relationships

Stochastic
Processes

Time Series
Methods and
Dynamic
Econometrics

Econometrics
Methods for Cross-
Sectional and
Panel Data

Empirical Analysis
of Financial
Markets

Core Courses

Topics in
Computational
Econometrics

Writing a
Master's
Thesis

Skill Courses

3. Mathematical Economics

Modelling strategic behaviour

Game Theory and
Optimisation

Social Choice
Theory

Industrial
Economics

Equilibrium
Theory and
Financial Markets

Core Courses

Topics in
Computational
Econometrics

Writing a
Master's
Thesis

Skill Courses

4. Operations Research

Optimisation of business processes

Game Theory
and
Optimisation

Algorithms
and
Optimisation

Modelling and
Solver
Technology

Operations
Research
Applications

Core Courses

Operations
Research
Software

Writing a
Master's
Thesis

Skill Courses

5. Data Science

Analysis of large data sets

Game Theory and
Optimisation

Time Series
Methods and
Dynamic
Econometrics

High-Dimensional
Econometric
Methods for Big
Data

Machine Learning

(and/or Algorithms
and Optimisation)

Core Courses

Operations
Research
Software

Writing a
Master's
Thesis

Skill Courses

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.






Student
Profile

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 does
the future
hold?

Alumni Careers

| | Actuarial Science | Econometrics | Mathematical Economics |
|---|--|---|---|
|  | Graduates Employed in 4 countries | Graduates Employed in 14 countries | Graduates employed in 3 countries |
|  | Actuary Consultant Investment Manager Product Controller | Business Intelligence Analyst Econometrician Consultant Risk Analyst | Analytical Consultant Research Analyst Risk Advisor Sales Analyst |
|  |  |  |  |

Alumni Careers

| | | |
|---|--|---|
|  | Operations Research | Data Science |
|  | Graduates employed in 3 countries | Graduates employed in 13 countries |
|  | Business Consultant Software Engineer Trading Innovation Manager Technical Consultant | Actuary Analytical Consultant Data Scientist Financial Advisor |
| |  |  |

Questions?

Visit us at the information market in
the Mensa

