## Core

<table>
<thead>
<tr>
<th>Course</th>
<th>EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Econometrics</td>
<td>6</td>
</tr>
<tr>
<td>Multivariate Econometrics</td>
<td>6</td>
</tr>
<tr>
<td>Time Series Models</td>
<td>6</td>
</tr>
<tr>
<td>Thesis</td>
<td>18</td>
</tr>
</tbody>
</table>

### Choose 2 (or 3) specialization courses

<table>
<thead>
<tr>
<th>Course</th>
<th>EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asymptotic Statistics</td>
<td>8</td>
</tr>
<tr>
<td>Measure Theoretic Probability</td>
<td>8</td>
</tr>
<tr>
<td>Stochastic Processes: the Fundamentals</td>
<td>6</td>
</tr>
<tr>
<td>Stochastic Processes for Finance and Derivatives Markets</td>
<td>6</td>
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</tbody>
</table>

## Specialization courses

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Evolutionary Computing</td>
<td>6</td>
</tr>
<tr>
<td>Web Data Processing Systems</td>
<td>6</td>
</tr>
</tbody>
</table>

### Choose 1 of 8 courses, or an additional specialization course

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Large Scale Data Engineering</td>
<td>6</td>
</tr>
<tr>
<td>Functional Analysis</td>
<td>8</td>
</tr>
<tr>
<td>Dynamical Systems</td>
<td>8</td>
</tr>
<tr>
<td>Time Series</td>
<td>8</td>
</tr>
<tr>
<td>Stochastic Integration</td>
<td>8</td>
</tr>
<tr>
<td>Computational Finance</td>
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</table>

## Optional courses

<table>
<thead>
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<tr>
<td>Stochastic Processes: the Fundamentals</td>
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<tr>
<td>Computational Finance</td>
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</tbody>
</table>

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**Last update:** 13-07-2018
**FINANCIAL ECONOMETRICS**

*Your Road to Wall Street: Become the Quantitative Specialist in the Financial Industry*

### Core
- 0 EC
- Bootcamp Computer programming
- Advanced Econometrics 6 EC
- Multivariate Econometrics 6 EC
- Time Series Models 6 EC
- Thesis 18 EC

### Specialization courses
- Choose 2 (or 3) specialization courses
- Asset Pricing 6 EC
- Stochastic Processes: the Fundamentals 6 EC
- Stochastic Processes for Finance and Derivatives Markets 6 EC
- Derivatives 6 EC
- Financial Econometrics Case study 6 EC

### Optional courses
- Choose 1 of 6 courses, or an additional specialization course
- Large Scale Data Engineering 6 EC
- Web Data Processing Systems 6 EC
- Institutional Investments and Asset Liability Management 6 EC
- Computational Finance 6 EC
- Financial Markets and Institutions 6 EC
Financial Engineering

Become the expert on analyzing and designing financial products

**Core**

1. Combinatorial Optimization (6 EC)
2. Optimization under Uncertainty (6 EC)
3. Operations Research Case Study (6 EC)
4. Behavioural Operations Research (6 EC)
5. Thesis (18 EC)

**Financial Engineering**

6. Asset Pricing (6 EC)
7. Econometrics for Quantitative Risk Management (6 EC)
10. Derivatives (6 EC)
11. Institutional Investments and Asset Liability Management (6 EC)

Choose (at least) 2 courses from 6

**Elective**

Choose 1 course from a general list in study guide
# MARKETING DATA SCIENCE
The Data Science of What How & When: become the Quantitative Specialist in Marketing

## Core
- Bootcamp Computer Programming
- Advanced Econometrics 6 EC
- Multivariate Econometrics 6 EC
- Time Series Models 6 EC
- Thesis 18 EC

## Specialization courses
Choose 2 (or 3) specialization courses
- Marketing Strategy 6 EC
- Web Data Processing Systems 6 EC
- Branding and Advertising 6 EC
- Large Scale Data Engineering 6 EC
- Marketing Data Case 6 EC

## Optional courses
Choose 1 of 6 courses, or an additional specialization course
- Digital Marketing 6 EC
- Geographic Information Systems 6 EC
- Regional and Urban Economics 6 EC
- Transport Economics 6 EC
- Big Data Analytics in Geographic Information Systems 6 EC
- Data Mining Techniques 6 EC

Last update: 13-03-2018
**OPERATIONS RESEARCH THEORY**

Study at the Frontiers of Science: Become a Game Changer for Industry Practice

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
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**Operations Research Theory**

- Continuous Optimization | 6 EC
- Discrete Optimization | 6 EC
- Heuristic Methods in Operations Research | 6 EC

**Elective**

Choose (at least) 2 from 6 LNMB courses

- Scheduling | 6 EC
- Advanced Linear Programming | 6 EC
- Queueing Theory | 6 EC

Choose 1 course from a general list in study guide
# QUANTITATIVE ECONOMICS

Be the game-changer in shaping and modelling the economy of tomorrow

## Core

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## Specialization courses

- Advanced Microeconomics 6 EC
- Advanced Macroeconomics 6 EC
- Research Project Economics 6 EC
- Geographic Information Systems 6 EC
- Financial Markets and Institutions 6 EC
- Transport Economics 6 EC
- Economics of Climate Change 6 EC
- Globalization, Growth and Development 6 EC
- Human Development 6 EC
- Industrial Organization and Competition Policy 6 EC
- Labour Economics 6 EC

Choose 1 out of 8

## Optional courses

- Computer programming
- Econometrics
- Multivariate Econometrics
- Time Series Models
- Thesis

Last update: 13-03-2018
SUPPLY CHAIN MANAGEMENT
Shaping supply chain networks in an interconnected world

Core
- Combinatorial Optimization (6 EC)
- Optimization under Uncertainty (6 EC)
- Operations Research Case Study (6 EC)
- Behavioural Operations Research (6 EC)
- Thesis (18 EC)

Supply Chain Management
- Transport Economics (6 EC)
- Geographical Information Systems (6 EC)
- Supply Chain Execution (not in 2018-2019) (6 EC)
- Operation and Supply Chain Management (6 EC)

Elective
- Choose 2 courses
- Choose 1 course from a general list in study guide

Last update: 09-07-2018