

Business modeling

Using optimization models and simulations for decision support, analysis and improving business processes. Often called prescriptive analytics.



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Data analysis

Statistical learning and predictive analytics for learning and extrapolating from data.



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Programming skills

For data handling and problem solving in business.



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Examples of careers

- ❑ Management analyst
 - ❖ Use (big) data and analytics to improve efficiency in an organization.
- ❑ Market research analyst
 - ❖ Use data and analytics to study market conditions and which products that are in demand.
- ❑ Chief data officer
 - ❖ A complex job involving skills in business strategy as well as in data collection and analysis.
- ❑ Jobs in the public sector, the finance-, accounting-, transportation industry,...

Core courses

Programming

BAN400
R programming for data science
(Fall)

BAN401
Applied programming and data
analysis for business
(Fall)

Business modelling

BAN402
Decision modelling in business
(Fall)

BAN403
Simulation of business
processes
(Spring)

Predictive analytics

BAN404
Predictive analytics with R
(Spring)

At least one

Both

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The core courses address

1. How to formulate and solve business problems?
2. How to make actionable information based on raw data?
3. How to write prototype code to test ideas and to communicate with, e.g., engineers?
4. How to work and communicate in teams?

Electives - methodological

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|-------------------------------|---|
| <u>BAN423</u> | <u>Benchmarking with DEA, SFA, and R*</u> |
| <u>BAN426</u> | <u>Applied Data Science*</u> |
| <u>BAN430</u> | <u>Forecasting</u> |
| <u>BAN432</u> | <u>Applied Textual Data Analysis for Business and Finance</u> |
| <u>BAN436</u> | <u>Data analysis in Python*</u> |
| <u>ECN430</u> | <u>Empirical Methods and Applications in Macroeconomics and Finance</u> |
| <u>ECO401</u> | <u>Optimisation and Microeconomic Theory</u> |
| <u>STR459</u> | <u>Artificial Intelligence and Robotics</u> |

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* 2.5 ECTS

Electives – Business Applications

| | |
|-------------------------------|---|
| <u>BAN424</u> | <u>Applications of Business Analytics*</u> |
| <u>BAN425</u> | <u>Applied Risk Management*</u> |
| <u>BAN427</u> | <u>Insurance Analytics *</u> |
| <u>BAN434</u> | <u>Social and Economic Networks</u> |
| <u>BAN435</u> | <u>Blockchain Technology and Cryptocurrencies*</u> |
| <u>BUS401</u> | <u>Strategic Profitability Analysis and Pricing</u> |
| <u>BUS403</u> | <u>Supply Chain Management</u> |
| <u>BUS429</u> | <u>Pricing Analytics and Revenue Management</u> |
| <u>BUS432</u> | <u>Operation Management</u> |
| <u>BUS460</u> | <u>Operational Risk Management</u> |
| <u>BUS465</u> | <u>Detecting Corporate Crime</u> |
| <u>BUS470</u> | <u>Retail Analytics</u> |
| <u>ECN431</u> | <u>Applied Data Driven Business Analysis</u> |
| <u>ENE431</u> | <u>Shipping Economics and Analytics</u> |
| <u>ENE434</u> | <u>Energy Industry Analytics</u> |
| <u>FIE453</u> | <u>Big Data with Applications to Finance</u> |
| <u>MBM433</u> | <u>Customer Analytics in a Digital World</u> |
| <u>STR453</u> | <u>Digitalization</u> |

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Choose Business Analytics if you

- are interested in business and quantitative methods.
- want the comparative advantage of being a good (business-) economist who can communicate well with engineers and programmers.