

# Decision Theory

*Entscheidungstheorie*

**Module Number** | 82-021-BE01-H-0218

**Degree** | Bachelor

**Semester** | Summer term

**Course Type** | Lecture and Tutorial

**Participation Limit** | none

**Creditable for** | Mandatory in Major Supply Chain & Information Management, Mandatory in Major Business & Economics, Compulsory Elective

**Contact Hours** | 4 hours/week

**Number of Credits** | 5 ECTS

**Language** | English

**Chair** | Economics, esp. Public Finance and Economics, esp. Macroeconomics

**Lecturer** | Prof. Dr. Dominika Langenmayr and Prof. Dr. Simon Wiederhold

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## Learning Outcomes

- Students understand how decisions are actually made and how they should be made to achieve better outcomes with respect to the decision maker's goals.
- Students understand common (and their own) flaws in decision-making. This helps them to develop a responsible attitude towards their decisions.
- Students are familiar with the formal-mathematical methods to analyze decision-making.
- Students understand strategic interactions in decision-making.
- Students can apply the acquired knowledge to typical decision problems in the commercial sphere and in general socioeconomic interactions.

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## Module Content

- Decision Theory under Certainty
  - Rational Choice under Certainty
  - Decision-Making under Certainty
- Probability Assessment
  - Rational Probability Assessment under Risk and Uncertainty
  - Judgement under Risk and Uncertainty
- Decision Theory under Risk and Uncertainty
  - Rational Choice under Risk and Uncertainty
  - Decision-Making under Risk and Uncertainty
- Game Theory
  - Static Games
  - Dynamic Games
  - Repeated Games

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## Teaching Methods

- Lecture
- Tutorial

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## Grading

- Final Exam (100 %)

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## Assessment criteria in detail

- Written exam (90 minutes) at the end of the semester

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## Average Workload

28 h = Time of attendance lecture

28 h = Preparation and postprocessing lecture

28 h = Time of attendance tutorial

28 h = Preparation and postprocessing tutorial

38 h = Exam preparation

150 h = Total workload

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## Previous Knowledge/Prerequisites

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- Recommendation: Mathematics, Statistics I, Microeconomics

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## Readings

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- Erik Angner: A course in behavioural economics, Palgrave MacMillan, 2<sup>nd</sup> edition, 2016.
- Hal R. Varian: Intermediate Microeconomics: A Modern Approach, 8<sup>th</sup> edition, 2010.
- Drew Fudenberg and Jean Tirole: Game Theory, 7<sup>th</sup> edition, 2005.
- Daniel Kahneman: Thinking, Fast and Slow, 2011