



# Prof. Dr. Frank Steffen

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Summer Semester 2017

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# **Interactive Case-Study Seminar: Fundamentals of Decision Theory**

(34011 - 2 SWS)

(Fallstudienseminar in englischer Sprache)

# 1. Course Description

Decision theory is concerned with three domains of problems: how a decision-making agent should make the best possible decisions given uncertain and risky circumstances in the environment; how a decision-making agent should make the best possible decision when faced by other decision-making agents who may have contrary interests; and how a group of agents acting together in a committee should make the best possible decisions. During this course students will be introduced to the fundamental concepts and principles of decision theory, such as normal and extensive form games, solution concepts, and aggregation procedures. This is an innovative and interactive seminar course. The goal is to create a structured problem-solving 'learning laboratory' in which students develop their abilities to think in decision-theoretic terms when presented with practical real-world decision-making problems taken from professional and business experience. All theory will be embedded in case studies which will be used to contrast 'intuitive' approaches to decision-making problems with structured and systematic approaches.

# 2. Intended Learning Outcomes

At the end of this seminar course students will have acquired

- an understanding of the key concepts of classical decision-theory, game theory, and collective choice,
- a basic ability to systematically structure real-world problems within a decision-theoretic framework,
- a basic ability to analyze a real-world problem with decision-theoretic solution concepts at an introductory level,
- a basic ability to compare foundational decision-theoretic solutions with an intuitive approach to solving decision-making problems, and
- an ability to communicate the results of a decision-theoretic analysis in a non-technical manner to a wider audience.

#### 3. Pre-requisites

None.

## 4. Teaching and Learning Strategies / Seminar Programme

This is an intensive seminar course that will provide students with an introduction to the three main areas of decision theory:

- Decisions under uncertainty and risk (classical decision theory)
- Strategic decision-making (game theory)
- Committee decision-making (collective choice)

For each of the three different areas of decision-theory students will be divided into working groups of 4 or 5 (which will change with each topic). Each group will have to define and solve a selection of problems and present their analyses to other groups. There will be three lectures.

Slides will be made available via dropbox or e-mail after each session.

# 5. Seminar Course Schedule

During this semester the seminar course is offered via four evening sessions. These will take place as follows:

Session No.	Day	Date	Time	Room
01	Wednesday	26 Apr	18:00 - 22:00	RW \$55
02	Wednesday	10 May	18:00 - 22:00	RW S55
03	Wednesday	12 Jul	18:00 - 22:00	RW S55
04	Wednesday	19 Jul	18:00 - 22:00	RW S55

#### 6. Assessment

Economics (BA) and IWE students & P&E (BA) students aiming for an accreditation under Module E6 (or Ö6 under the previous examination regulations) (5 CP):

- One hour unseen written examination. If the total number of participating students for the written examination is less than five, an oral examination may replace the written one. (Students will be informed about the form of examination as soon as possible.)
- The date of the examination can be found on http://www.bwl5.uni-bayreuth.de/de/ studiendekan/klausurtermine/
- Students have to register for the examination via CAMPUSonline. Only if students cannot register via CAMPUSonline they can register via e-mail by sending an e-mail to Uriel Braham: uriel.braham@googlemail.com. This e-mail must only contain the title of the course, the student's surname, first name, ID number, and degree of study as well as a brief indication why registration via e-mail is required.
- The registration deadline is one week in advance to the date of the examination. Later registrations will not be accepted.

P&E (BA) Students aiming for an accreditation as a 'P4\*-Seminar' (or 'P3-Seminar under the previous examination regulations) (2 CP):

• Report based on a selected case study of the seminar course. Further information will be announced and published during the seminar.

P&E (BA) Students aiming for an accreditation as a 'P6.iv-Seminar' (5 CP) (or 'P3-Seminar' under the previous examination regulations (6 CP)):

• Seminar paper ('Hausarbeit') based on a case study. Further information will be announced and published during the seminar.

Furthermore, for passing the seminar course students are expected to participate in all seminar sessions.

## 7. Reading Resources

Required pre-reading: none

As the teaching and learning concept is based on structuring intuitive analyses no prior reading material will be distributed as this would interfere with the didactical concept.

• Recommended reading:

Students will be given a list of recommended reading at the end of each of the seminar session/day. These reading resources will be available via dropbox or e-mail.

## 8. Accreditation

• Economics (BA):

Modulbereich SQ: Schlüsselqualifikation / Modul SQ3: Fallstudienseminar in englischer Sprache

IWE:

Modulbereich SQ: Schlüsselqualifikation / Modul SQ2b: Fallstudienseminar

■ P&E (BA):

Modulbereich P: Philosophie / Modul P4\*: Grundlagen des Entscheidens II (Seminar)

Modulbereich P: Philosophie / Modul P6.iv: Entscheidungstheorie (Seminar) Modulbereich E: Economics / Modul E6: Spezialisierung

 P&E (BA) (Previous examination regulations before Winter Semester 2015/2016): Modulbereich P: Philosophie / Modul P3: Grundlagen des Entscheidens II (Seminar)
Modulbereich Ö: Ökonomie / Modul Ö6: Veranstaltungen eigener Wahl

# 9. Registration

To register please follow the instructions **exactly** as given. Those failing to do so **will not be registered**.

*Send an e-mail to:* Uriel Braham: uriel.braham@googlemail.com by **14 April 2017**.

The e-mail should be as follows:

Subject line: Steffen IACSS FoDT

#### Content:

In the mail please give the following information in a comma-delimited list without any further details (such as Dear Prof. Steffen etc.) exactly as follows:

Last name First name, Mat-Nr., Degree, Semester

NB: no spaces between commas.

Key

Degree = Econ, IWE, IWG, P&E,

Examples

Mill John,10101,P&E,BA6

Luxemburg Rosa,10102,IWG,MA2

Allocation of seminar places will be made by **16 April 2017**. You will be notified by e-mail

*Note:* Given the nature of the seminar course priority in the allocation of places will be given to Economics students in the 1<sup>st</sup> and 2<sup>nd</sup> semester. The notification of acceptance or rejection will be communicated via e-mail.

#### 10. Responsible Student Assistant for the Course

All requests regarding the course should, in the first instance, be addressed to:

Uriel Braham:

E-mail: uriel.braham@googlemail.com

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