

# Games and Information

## MEPS Course Summer Semester 2025

Karl-Josef Koch

### Syllabus

The course is primarily directed at students of MEPS, the Master of Economic Policy program in Siegen. However, students of the University of Siegen who have achieved the necessary background knowledge in Microeconomics and Mathematical Methods for Economists are welcome.

<b>Method of teaching:</b>	The form of teaching will be blended learning. There will be a number of Webex-sessions combined with four blocks of in-class-lectures and tutorials.
<b>Schedule</b>	You can find the dates and any updates on Unisono. I included a table with the current planning below.  The first session will take place on April 7 as a Webex meeting.  Students who are registered in Unisono will receive the invitation link by email.
<b>Exams</b>	Written exams of one hour will take place according to the rules of the department.
<b>Instructor:</b>	Prof. Dr. Karl-Josef Koch karl-josef.koch@uni-siegen.de
<b>Office Hours:</b>	On request only
<b>Course Website:</b>	<a href="http://www.wiwi.uni-siegen.de/vwli/lehre/">http://www.wiwi.uni-siegen.de/vwli/lehre/</a> Print versions of slides, exercises and some additional material will be posted on the course website.  Short-term organizational announcements and other information will be shared on the website as well.  Please check the website regularly.

## Status of scheduling at the beginning of the semester

Mo	April 7	14 - 16	Webex
Mo	April 14	14 - 18	US-A 017
Tue	April 15	08 - 12	US-A 017
Mo	April 28	14 - 16	Webex
Mo	May 5	14 - 18	US-A 017
Tue	May 6	08 - 12	US-A 017
Mo	May 12	14 - 16	Webex
Mo	May 19	14 - 18	US-A 017
Tue	May 20	08 - 12	US-A 017
Mo	May 26	14 - 16	Webex
Mo	June 2	14 - 16	Webex
Mo	June 16	14 - 20	Webex
Mo	June 23	14 - 18	US-A 017
Tue	June 24	08 - 12	US-A 017

# Course Structure

1. Introduction
2. Game Theory
  - 2.1 Basics of Game Theory
  - 2.2 Normal Form Games
  - 2.3 Extensive Form Games
  - 2.4 Differential Games
  - 2.5 Games with Imperfect Information
3. Contract Theory
  - 3.1 Moral Hazard
  - 3.2 Adverse Selection
  - 3.3 Signaling
  - 3.4 Some Extensions
4. Final Remarks

## Prerequisites

Students should be familiar with advanced methods of Microeconomic Theory and advanced methods of Calculus for Economists.

## Short Structured List of References

### Textbooks Used in the Course

RASMUSEN, E. (2006): *Games and Information*. Wiley-Blackwell, 4 edn.

MACHO-STADLER, I., AND J. D. PÉREZ-CASTRILLO (2001): *An Introduction to the Economics of Information*. Oxford University Press, second edn.

### Additional Readings

CARLTON, D. W., AND J. M. PERLOFF (2015): *Modern Industrial Organization*. Pearson Addison Wesley, fourth edn.

GIBBONS, R. S. (1992): *Game theory for applied economists*. Princeton University Press.

HOPPE, E. I., AND P. W. SCHMITZ (2018): “Hidden action and outcome contractibility: An experimental test of moral hazard theory,” *Games and Economic Behavior*, 109, 544–564.

LUCCHETTI, R. (2011): *A Primer in Game Theory*. Società Editrice Esculapio.

MACHO-STADLER, I., AND D. PÉREZ-CASTRILLO (2018): “16. Moral hazard: Base models and two extensions,” *Handbook of Game Theory and Industrial Organization, Volume I*, 1, 453.

MESTERTON-GIBBONS, M. (2019): *An introduction to game-theoretic modelling*, vol. 37. American Mathematical Soc.

OSBORNE, M. J., ET AL. (2004): *An introduction to game theory*, vol. 3. Oxford university press New York.

RASMUSEN, E. (ed.) (2001): *Readings in Games and Information*. Blackwell Publishers.

### Advanced Readings

BOLTON, P., AND M. DEWATRIPONT (2005): *Contract Theory*. MIT Press.

LAFFONT, J.-J., AND D. MARTIMORT (2002): *The Theory of Incentives*. Princeton University Press.

MYERSON, R. B. (2013): *Game theory*. Harvard university press.