

# Game Theory

## 0. Organizational Matters

Albert-Ludwigs-Universität Freiburg



Bernhard Nebel and Robert Mattmüller

Summer semester 2017

## 1 About the Course



About the  
Course

Rules

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## People



About the  
Course

Rules

### Lecturers

Prof. Dr. Bernhard Nebel

- **email:** [nebel@informatik.uni-freiburg.de](mailto:nebel@informatik.uni-freiburg.de)
- **office:** room 052-00-029

Dr. Robert Mattmüller

- **email:** [mattmuel@informatik.uni-freiburg.de](mailto:mattmuel@informatik.uni-freiburg.de)
- **office:** room 052-00-030

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## People



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### Exercises

Tim Schulte

- **email:** [schultet@informatik.uni-freiburg.de](mailto:schultet@informatik.uni-freiburg.de)
- **office:** room 052-00-044

Grigoris Mouratidis

- **email:** [Grmouras@hotmail.com](mailto:Grmouras@hotmail.com)

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## Time & Place



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### Lectures

- **time:** Monday 16:15-17:00, Wednesday 14:15-16:00
- **place:** building 101, seminar room 01-016
- **alternative time with more seats:** Monday 18:15-19:00, Wednesday 14:15-16:00, building 101, 00-036
- **alternative place:** Monday: Kinohörsaal, Wednesday: 00-036.

### Exercises

- **time:** Monday 17:15-18:00
- **place:** building 101, seminar room 01-016
- perhaps alternative time or place

## Website



About the  
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Rules

### Course website

<http://gki.informatik.uni-freiburg.de/teaching/ss17/gametheory/>

- **main page:** course description
- **lecture page:** slides, lecture notes
- **exercise page:** assignments, software

## Teaching Materials: Books



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- **Osborne & Rubinstein.**  
**A Course in Game Theory.**  
Main source for the first half of this course. Quite formal.
- **Osborne.**  
**An Introduction to Game Theory.**  
Similar content as Osborne & Rubinstein, but less formal.
- **Nisan, Roughgarden, Tardos, & Vazirani.**  
**Algorithmic Game Theory.**  
Main source for the second half of this course

## Teaching Materials: Lecture Notes and Slides



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Rules

- lecture notes in English and German:
  - **en:** [http://gki.informatik.uni-freiburg.de/teaching/ss17/gametheory/gametheory\\_en.pdf](http://gki.informatik.uni-freiburg.de/teaching/ss17/gametheory/gametheory_en.pdf)
  - **de:** [http://gki.informatik.uni-freiburg.de/teaching/ss17/gametheory/gametheory\\_de.pdf](http://gki.informatik.uni-freiburg.de/teaching/ss17/gametheory/gametheory_de.pdf)(PDFs updated regularly)
- open  $\text{\LaTeX}$  sources (read-only):  
<https://gkigit.informatik.uni-freiburg.de/teaching/gametheory/gametheory-lecturenotes/tree/master>  
You may use and modify them. If you improve them, we are happy to include and acknowledge your contributions.
- slides available on course website
- additional resources: literature list on course website +  
**ask us!**

## 2 Rules



About the  
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Rules

## Target Audience



About the  
Course  
Rules

### Students of Computer Science:

- Master of Science, any year
- Bachelor of Science, ~3rd year

### Other students:

- advanced study period (~4th year)

## Prerequisites



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### Course prerequisites:

- no required prerequisites
- some familiarity with mathematical notation and theoretical computer science is helpful, familiarity with Python 3 is assumed for the exercises.

## Credit Points & Exam



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Course  
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- 6 ECTS points
- special lecture in specialization field  
[Cognitive Technical Systems](#)
- [oral exam](#) of about 30 minutes for B.Sc. students
- [written or oral exam](#) for M.Sc. students (likely written)

Successful participation (50% of points) prerequisite for exam admission.

### Written assignments:

- handed out once a week
- due one week later, before the lecture
- discussed in the next exercise session
- may be solved in groups of two students (2  $\neq$  3)
- 8 points per exercise sheet

### Didactic web-based experiments in game theory:

- See <http://gametheory.tau.ac.il/>.
- course number and class password will be sent by email
- experiments conducted intermittently (three to five times throughout course)
- about one week time to complete
- discussed in the next exercise session
- must be solved alone (not in groups)
- 4 points per set of experiments

- points can be earned for “reasonable” solutions to exercises and for participation in web-based experiments.
- at least 50% of points prerequisite for admission to final exam.

### What is plagiarism?

- passing off solutions as your own that are not based on your ideas (work of other students, Internet, books, ...)
- <http://en.wikipedia.org/wiki/Plagiarism> is a good intro

**Consequence:** no admission to the final exam.

- We may (!) be generous on first offense.
- Don't tell us “We did the work together.”
- Don't tell us “I did not know this was not allowed.”