Game Theory

0. Organizational Matters

Bernhard Nebel and Robert Mattmüller
Summer semester 2019
1 About the Course
People

Lecturers

Prof. Dr. Bernhard Nebel

- email: nebel@informatik.uni-freiburg.de
- office: room 052-00-029

Dr. Robert Mattmüller

- email: mattmuel@informatik.uni-freiburg.de
- office: room 052-00-042
People

Exercises

Tim Schulte

- email: schultet@informatik.uni-freiburg.de
- office: room 052-00-044

David Speck

- email: speckd@informatik.uni-freiburg.de
- office: room 052-00-030
Time & Place

Lectures

- **time:** Tuesday 16:15-17:45, Thursday 15:00-15:45
- **place:** building 101, seminar room 00-026

Exercises

- **time:** Thursday 14:15-15:00
- **place:** building 101, seminar room 00-026
Course website

http://gki.informatik.uni-freiburg.de/teaching/ss19/gametheory/

- main page: course description
- lecture page: slides, lecture notes
- exercise page: assignments, software
Teaching Materials: Books

- **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

- lecture notes in English and German:
  - en: http://gki.informatik.uni-freiburg.de/teaching/ss18/gametheory/gametheory_en.pdf
  - de: http://gki.informatik.uni-freiburg.de/teaching/ss18/gametheory/gametheory_de.pdf

  (PDFs updated regularly)

- open \LaTeX{} sources (read-only):
  https://gkit.git.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
Target Audience

Students of Computer Science:
- Master of Science, any year
- Bachelor of Science, ~3rd year

Other students:
- advanced study period (~4th year)
Prerequisites

Course prerequisites:

- no formal 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

- 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)
Exercises

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 up to three students
- 8 points per exercise sheet
Exercises

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.
Admission to Exam

You can take the exam without any prerequisite!
However, you also have to acquire a Studienleistung:

- Points can be earned for “reasonable” solutions to exercises and for participation in web-based experiments.
- At least 50% of points prerequisite for acquiring the Studienleistung.
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 Studienleistung!

- 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.”