

Game Theory and Rationality (ENM140)

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Web page: <http://chalmers.instructure.com/courses/7573/assignments/syllabus>

Game theory:

Game theory is the mathematical study of interaction among independent, self-interested agents.

Course structure:

- Lectures and games
- Individual assignments 1 & 2 (First one on Monday 11 November)
- Midterm exam (Monday 25 November)
- Group work (3-4 students per group):
 - * Student-led seminar
 - * Project (40-50%, 80-100h)

Course book:

Leyton-Brown & Shoham, *Essentials of Game Theory: A Concise, Multi-disciplinary Introduction* (2008). (Available as pdf from Chalmers library.)

Number Game

Decide on an integer number between 1 and 100 (inclusive). Write it down without showing.

The goal is to get as close as possible to half the average of the numbers in the class!

(Submit your choice at [menti.com](https://www.menti.com))

Pirate Game

Pirate game:

A treasure with 10 000 gold coins has been found by a group of N pirates. How to divide the treasure?

- There is a certain senior order $\{1, 2, \dots, N\}$, and the first one is captain and proposes how to split.
- All vote on the proposal. If a majority supports (including the captain, who also has a casting vote to break a tie), the coins are distributed as suggested. Game ends.
- If there is not support, captain is thrown overboard, and the next one on the list becomes the captain, who now proposes how to split, and so on...