

Discrete Mathematics I -- SoSe17

REQUIREMENTS FOR THE EXERCISES AND THE FINAL EXAM

Exam

- The grade for the course is based solely on the final exam
- The exam will take place on Wednesday, July 26th 2017, in the Große Hörsaal of Takustr. 9 from 14.00 to 16.00.
- There will be a re-take exam, date and place to be confirmed
- Both are closed-book/closed-notes exams. You can come to both, the better grade counts.
- You are welcome to write the exam in English or German.
- There will be two different types of problems in the exams:
 - Lexical knowledge: Definitions, statements and proofs of theorems from the lecture
 - Problem solving: applying the encountered theorems and methods to solve exercises.
Some of these will be from the homework sheets, some you have never seen before.

Course work

- There will be 12 exercise sheets
- The sheets will usually be published after the Wednesday class on the webpage of the course
- Submit your solutions by the end of Wednesdays lecture (16:00), alternatively at the office of Jean-Philippe Labbé in Arnimallee 2 (Room 103) (slide it under the door if locked).
- LATE submissions will NOT be accepted.

Submission of solutions

- Solutions to exercises have to be submitted in pairs.
- Each solution must start with the name of the person who wrote up the solution for the pair.
- Indicate between 3 to 4 solutions you would like to have graded.
- You are welcome to submit solutions in English, or German.
- You can hand in more solutions to get corrections, but only up to 4 will be graded, and they have to be indicated beforehand.

Grading of exercises

- Each graded exercise is worth 3 points
- The *team grade* of an exercise sheet is:

$$\frac{\text{sum of graded exercises points}}{9}.$$

Note that the denominator is not 12, even if a pair submitted 4 solutions to be graded.

- The *individual grade* of an exercise sheet is:

$$\frac{\text{sum of graded exercises points written by person A}}{3 \cdot \# \text{ exercises written by person A}}$$

For every exercise sheet, a student receives two grades: a *team grade* and an *individual grade*.

Active Participation

To receive a pass for your "Aktive Teilnehme", person A has to fulfill four conditions:

- The average *team grade* of person A is at least 60%
- Person A must author at least 10 solutions
- Person A must have an average *individual grade* of at least 50%
- Person A must have presented a solution at the blackboard at least once

Reading between lines

As a team, it is a good idea to submit more exercises since there is 3pts of bonus every week. As an individual, nevertheless, it is encouraged **to not** submit problems "just to get points" because it may lower your average. Hence, make sure that the solutions you write and hand in are valuable. It is encouraged to read each others work, even from students of other pairs, before handing in.

Hints

- It is very beneficial to think about and discuss mathematics with others. You are absolutely encouraged to talk through the exercises in study groups and come up with the solutions together.
- You should however write the solutions up by yourself. The exercises are the basis for the exams.
- Feel free to contact us if there are questions concerning the exercises, best by e-mail or in person!

Internet and citing sources

Nowadays, it is possible to find a lot of solutions on the internet. Nevertheless, copying solutions will never give you the deep understanding needed to succeed on the final exam. Pondering over problems is part of the learning process and the exercises are made for that purpose. This is exactly the fun part of this course, make the most of it!

If you ever encounter a solution somewhere, we encourage you to cite the source, wikipedia, a book, or other. Know that plagiarism is harshly punished and that properly citing sources and references is fundamental in sciences and research. Citing sources for exercises is a good practice for later!

Lecture notes

There is no official lectures notes. The some scanned notes used to give the lectures will usually appear on the webpage of the course

Recommended readings

- M. Aigner: Discrete Mathematics (German and English editions)
- M. Aigner: A Course in Enumeration
- J. Matousek, J. Nešetřil: Invitation to Discrete Mathematics (German and English edition)
- L. Lovasz, J. Pelikan, K. Vesztegombi: Discrete Mathematics
- R. Brualdi: Introductory Combinatorics
- D. West: Introduction to Graph Theory