

Discrete Mathematics in Computer Science

A1. Organizational Matters

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University of Basel

September 17, 2025

Discrete Mathematics in Computer Science

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A1.1 Organizational Matters

A1.2 About this Course

A1.1 Organizational Matters

People

Lecturers



Malte Helmert

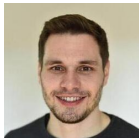
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Gabi Röger

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- ▶ **office:** room 04.005, Spiegelgasse 1

Assistant



David Speck

- ▶ **email:** `davidjakob.speck@unibas.ch`
- ▶ **office:** room 04.003, Spiegelgasse 5

People



Tutors

- ▶ Maria Desteffani (maria.desteffani@unibas.ch)
- ▶ Pascal von Fellenberg (pascal.vonfellenberg@unibas.ch)
- ▶ Carina Schrenk (carina.schrenk@unibas.ch)
- ▶ Carina Fehr (carina.fehr@unibas.ch)

Target Audience

target audience:

- ▶ this is an introductory course on the Bachelor's level
- ▶ we cover mathematical foundations that are particularly useful for the computer science curriculum
- ▶ main target audience: B.Sc. Computer Science, 1st semester
- ▶ all other students welcome

Enrolment

- ▶ `https://services.unibas.ch/`
- ▶ [official deadline](#): October 13
- ▶ better today, so that you get all relevant emails and access to the ADAM workspace

Discrete Mathematics Course on ADAM

ADAM

<https://adam.unibas.ch/>

- ▶ link to website with slides
- ▶ submission of exercise sheets
- ▶ model solutions for exercise sheets
- ▶ link to Discord server (for interaction among participants, but you also get answers from lecturers, assistant and tutors)
- ▶ additional material

Language

- ▶ The course is taught in English.
- ▶ All lecture material is in English.
- ▶ We (lecturers, assistant, tutors) speak German and English.
- ▶ You are also welcome to ask questions in German.
- ▶ Also exercise submissions can be in English or German.

Lectures

- ▶ Mon 16:15–18:00, Hörsaal U1.131, Biozentrum
Wed 16:15–17:00, Hörsaal 1, Pharmazentrum
- ▶ first half of the course taught by Gabi Röger,
second half by Malte Helmert
- ▶ on December 17: Q&A session for exam preparation

Exercises

Exercise sheets (homework assignments):

- ▶ mostly theoretical exercises
- ▶ exercise sheets on ADAM every Monday after the lecture
- ▶ must be solved in **groups of two or three**
(not alone or in larger groups)
- ▶ due on the following Sunday (23:59)
(upload to ADAM at <https://adam.unibas.ch/>)
- ▶ we only accept readable PDFs
→ with a bonus point per sheet created with $\text{\LaTeX}$
(template, cheat sheet and intro on ADAM)

Question: Who has experience with $\text{\LaTeX}$?

Exercise Sessions With Tutors

Exercise Sessions (starting September 24/25/27)

Wed 17:15–18:00 Alte Universität, Seminarraum –201
with Carina S.

Wed 17:15–18:00 Spiegelgasse 1, Computer-Labor U1.001
with Pascal

Thu 17:15–18:00 Spiegelgasse 1, Seminarraum 00.003
with Maria

Fri 17:15–18:00 Pharmazentrum, Labor U1075
with Carina F.

- ▶ common mistakes/misconceptions
(full model solutions on ADAM)
- ▶ questions about exercise sheets and the course
- ▶ as time permits, support while you solve the exercises

important: please fill in the survey on ADAM for the group allocation until **Friday 12:00** (September 19).

Exam

- ▶ Written exam
- ▶ 6 ECTS credits
- ▶ Monday, January 19, 2026, 16:00-18:00
- ▶ Maurice E. Müller Saal, Biozentrum
- ▶ admission to exam: 50% of the exercise marks
- ▶ grade for course determined exclusively by the exam

Required Time

Official calculation

- ▶ 1 CP $\approx$ 30 hours
- ▶ The course has 6 CP.
- ▶ You need to invest about 180 hours.
- ▶ With 40 hours for exam preparation, this leaves **10–11 hours/week** during the teaching period.

Alternative calculation

- ▶ A full-time student achieves 30 CP per semester.
- ▶ The course corresponds to 1/5 of 30 CP.
- ▶ With a 42h week, this still corresponds to **8.4 hours/week**.

Plagiarism

Plagiarism

Plagiarism is presenting someone else's work, ideas, or words as your own, without proper attribution.

For example:

- ▶ Using someone's text without citation
- ▶ Paraphrasing too closely
- ▶ Using information from a source without attribution
- ▶ Passing off AI-generated content as your own original work

Long-term impact:

- ▶ You undermine your own learning.
- ▶ You start to lose confidence in your ability to think, write, and solve problems independently.
- ▶ Damage to academic reputation and professional consequences in future careers

Plagiarism in Exercises

- ▶ You may discuss material from the course, including the exercise assignments, with your peers.
- ▶ **But:** You have to independently write down your exercise solutions (in your team).
- ▶ Help from an LLM is acceptable to the same extent as it is acceptable from someone who is not a member of your team.

Immediate consequences of plagiarism:

- ▶ 0 marks for the exercise sheet (first time)
- ▶ exclusion from exam (second time)

If in doubt: check with us what is (and isn't) OK **before submitting**
Exercises too difficult? We are happy to help!

Special Needs?

- ▶ We (and the university) strive for equality of students with disabilities or chronic illnesses.
- ▶ Contact the lecturers for small adaptations.
- ▶ Contact the Students Without Barriers (StoB) service point for general adaptations and disadvantage compensation.

A1.2 About this Course

Content: Discrete Mathematics in Computer Science

- ▶ mathematical thinking and proof techniques
- ▶ sets and relations
- ▶ group theory and permutations
- ▶ modular arithmetic
- ▶ graphs and trees
- ▶ formal logic

Learning Goals

- ▶ proficiency in abstract thinking
- ▶ ability to formalize mathematical ideas and arguments
- ▶ knowledge of common mathematical tools in computer science