# Discrete mathematics - MAT2250 Spring 2024
## IMPORTANT COURSE INFORMATION

**Instructor.**
Professor Kris Shaw
Pronouns: they/them
Email: **krisshaw@math.uio.no**
Office: NHA 1116

**Lectures.**
Monday 14:15- 16:00 and Wednesday 14:15- 16:00 in VB Auditorium 1

**Office hours.**
Wednesdays 11:00-12:00 or by appointment

**Tutorials.**
Thursdays 12:15 - 14:00 in VB auditorium 5 with Emilie Elkiær

**Student representatives.**
**Do you wish to be a student representative for the course?**

**Course website.**
The course website will be used for posting homework. Lecture notes and relevant videos will be posted in the notes of hte time plan. Important information will be shared in the messages platform of the course website. Canvas will also be used to send emails. Please be sure that you have canvas notifications turned on.

`https://www.uio.no/studier/emner/matnat/math/MAT2250/v24/index.html`

**Course content.** From the course description:

*The course provides an introduction to selected topics in discrete mathematics; graph theory, combinatorics, finite (sic) bodies and code theory.*

*After completing the course:*
*you know basic definitions and results in graph theory, such as trees and shortest path, bipartite graphs and the Traveling Salesman Problem*
*you know various combinatorial counting problems and algorithms*
*you know the modular arithmetic and the theory of finite bodies (sic)*
*you know error correction codes and linear and cyclic codes.*

The course will be composed of three discrete blocks: enumerative combinatorics, graph theory, and discrete algebraic systems.

Although there will be some overlap between the blocks, they can be considered rather independent. This means that if you fall off the track from one section, it might be easier to jump back in when a new block starts ;) These dates are tentatively marked in the time plan on the course website.

**Prerequisites.**
R1 and R2

MAT1100, MAT1110, MAT1120 are also strongly recommended (we will use power series and linear algebra).

**Schedule.**
A rough schedule has been laid out on the time plan on the course website. Any deviations from the schedule will be updated there. Note there are no lectures on the 1st of April and the 20th of May.

**Text.**
M. Aigner, *Discrete mathematics*, AMS.

The text book is quite expensive and I was only now informed by Akademika that limited copies are available. There are ample course notes and lecture videos available from previous years. All homework exercises will be provided in PDF latex form, without necessary reference to the textbook.

**Supplementary texts.**
Supplementary sources to help with your learning (PDF texts, videos, etc) will be listed here as they come up.

**Exercises.**
Weekly homework exercises will be assigned. They will be discussed in the Thursday exercise sessions with Emilie. You are highly encouraged to test the problems before (either alone or in groups) before hearing the solutions. Some of these exercises may appear on the obligatory assignment or the final exam.

**Participation.**
Participation will be encouraged in both the lectures and tutorials. Participation in the exercise sessions includes asking questions, working in groups, and presenting solutions. Coming to office hours is also participation!

**Obligatory assignment.**
The obligatory assignment will be due on Thursday March 14th, 14:15-14:30. It will be submitted over Canvas. You will receive the written problems at least two weeks before.

**Exam**
The final exam will be held on June 12th at 15:00.

**Accessibility**
Students at UiO with disabilities and students with special needs can apply for individual adaptation. The right applies to the organization of the institution, teaching, teaching materials and exams. The deadline for applications for adaptation (for lectures or exams) in the spring semester is February 1st.

`https://www.uio.no/english/studies/special-needs-leave-part-time/`