

CS-E5745 Mathematical Methods for Network Science

Practicalities

Course in brief:

- 6 lectures
- 5 ex. sheets with pen-and-paper problems
- 1 project
- Weekly exercise sessions to support your learning
- No exam
- Grading based on exercises and project
- To get points towards your grade you need to:
 - 1. Return your solutions to the exercises
 - 2. ATTEND the exercise sessions and be prepared to PRESENT your solutions
- Lecturer: Mikko Kivelä
- Assistant: Abbas K. Rizi All the lectures and TA sessions will be held by Zoom and there is a single link for all the sessions. Lectures will be recorded but the TA sessions not.

Info on course exercises:

- The exercises and calculations done by the students are the main focus point of this course. This is not a lecture course with some exercises but more an exercise course with some lectures.
- Exercise sheets are published as early as possible, at latest in Thursday morning before the lecture.
- Each exercise set corresponds to one lecture. Getting familiar with the exercise problems already before the corresponding lecture is recommended.
- In the exercise sessions, students present their solutions on the blackboard or in the Zoom meeting. Before each exercise session, students are asked to mark, which problems they are ready to present on the blackboard - you can mark your solution as either completely or partially finished. We want to encourage students to present also partial solutions in order to discuss problems commonly faced while solving the exercises. For each problem set, there is a Google Form where you can use for this purpose.
- Make sure that you can participate on the exercise sessions before the course begins. We will only grant exceptions to the attendance policy of the exercise sessions only if there are unexpected situations that prevent you from coming, or if there are other very compelling reasons. In such cases you should contact the course assistant.

- **The mandatory exercise sessions are held on Wednesdays (from 12:15 to 2 PM) in Zoom.** On Mondays (from 2:15 to 4 PM), there is an advice session, where students can ask questions about the exercise set they are working on.
- Besides presenting their solutions in the exercise sessions, students are also asked to submit their written solutions for grading. The deadline for each exercise sheet is in the beginning of the corresponding exercise session (on Wednesday at 12 PM), in approximately one week after the corresponding lecture (see table below).
- Note that we only grade problems that the student has marked as completely or partially finished. The maximum amount of points can be received only for problems marked as completely finished.
- The assistant's comments and corrections are sent to the students via MyCourses (see Handing in exercises).
- In addition to the exercise sheets, there is a course project. In the project, students will go through the assumptions and calculations of a scientific article. More information about the project will be given later.

Round	Lecture date	Advice session	Exercise session	Ex. Set due
1	13.1.2022	17.1.2022 (14:15)	19.1.2022 (12:15)	19.1.2022 : 12:00
2	20.1.2022	24.1.2022 (14:15)	26.1.2022 (12:15)	26.1.2022 : 12:00
3	27.1.2022	31.1.2022 (14:15)	02.2.2022 (12:15)	02.2.2022 : 12:00
4	03.2.2022	07.2.2022 (14:15)	09.2.2022 (12:15)	09.2.2022 : 12:00
5	10.2.2022	14.2.2022 (14:15)	16.2.2022 (12:15)	16.2.2022 : 12:00
6 / project	17.2.2022	20.2.2022 (14:15)		05.3.2022 : 23:55

Getting Help, Online Sessions, Zoom and Zulip

- Advice sessions and exercise sessions will be organized completely remotely. In Advice sessions, the assistant will answer questions about the present exercise set. Please notice that there will not be a single Zoom exercise meeting that everybody should join (as there is for lectures). Instead, we use Aalto Zulip Chat and individual Zoom meetings to connect the teaching assistants and the students.
- The course Zulip workspace can be found at networksci.zulip.aalto.fi. You should log with your aalto account.
- The workspace contains a separate channel for each exercise round, named as Ex_n (e.g. Ex_1 for the first exercise round). For accessing the channels for the first time, search for the channel name and select Join.
- If you want to ask a question in writing, and especially if the question is something potentially interesting for others as well, you can just go to the channel of the round and write down your question.
- At advice sessions, If you want to have a one-on-one video consultation from a teaching assistant similar to one you would get in a contact class, you can ask for a Zoom consultation in the channel remote-exercise-sessions by using the Video Call button (Zulip default video meeting is done by <https://meet.jit.si/>) or by posting a link to your Zoom meeting together with your help request. For further details about using Zoom, see (<https://www.aalto.fi/en/services/zoom-video-tutorials>; requires Aalto login) and the instructions in the end of this document.

- Please note that the help in Zulip and/or Zoom is only available during the session schedule as detailed in the MyCourses pages of the course. **Zulip is available to anybody with an Aalto user account. So, do not post anything confidential there.**
- Please also note that there might be some queuing time. If you no longer require help or have to leave because the queuing time is too long, please reply to your own request and let the teaching assistants know.
- The assistant is happy to answer your questions. However, do your background work before asking! Read the problem carefully, think how you would start solving it. We encourage asking well-reasoned, specific questions ("So far my approach has been this and this, but now I'm facing this problem. How should I proceed to get around it?") while vague, open-ended questions ("What is asked here and how should I start?") should be avoided.
- Outside the exercise sessions, primary channel of asking questions is through the General Discussion forum in MyCourses
 - The assistant will be reading this regularly (multiple times a day)
 - Feel also free to help out other students in the forum, the course staff appreciates your efforts in helping other students!
- When required, it is also possible to contact the course staff via e-mail using the course e-mail address. However, use this only for personal issues (problems in grading etc.).

Handing in exercises

- Collaboration is allowed (with proper acknowledgments), but each student should return their own solutions.
- All exercises should be returned in electronic form in MyCourses (Assignments page).
- Both typed and scanned pen-and-paper solution are allowed. For scanning, use a proper scanner, not a camera or a scanner app of your phone.
- For each exercise, you should return a report as one **.pdf** file (NOT as .doc or .docx etc.)
- When reporting results, remember the following:
 - Always mark your name and student number to the pdf file.
 - If there are sections a), b), and c) in the exercise sheet, there should be corresponding sections in your report as well.
 - Always properly cite your sources. You do not want to become accused of plagiarism.
- Late submissions:
 - Because of the nature of the exercise sessions (discussing solutions on the blackboard), late submissions cannot be accepted. Be careful to submit in time!
- Deadline extensions:
 - We will not grant deadline extensions without very strong reasons. It is up to you to keep up with your schedules.
 - If you nevertheless happen e.g. to be extremely ill please contact the teaching assistant well ahead of time. Extensions are granted on a casewise basis.

Grading

- For the exercise problems, points are given.
 - **NOTE!** Solutions are graded only if you attend the exercise sessions and mark the exercises as done
- The final grade of the course is determined by the sum of the exercise points.
- The project is graded as failed, pass, or pass with distinction. If you obtain a pass with distinction grade from the project, you'll get one higher course grade than you would get otherwise (obviously assuming you would not be getting a 5 already).
- Additionally, it is possible to obtain further bonus points by giving feedback during the course.
- To pass the course, one has to get at least 60% of the exercise points as well as a pass from the project.
- Assistant's comments and corrections are sent to students via MyCourses. However, we don't use the grading pipeline of MyCourses, so the grades are not visible there. Instead, results of the course (including exercise points) will be published in a separate table at the Results tab in MyCourses. Because of this, your assignment may show as ungraded in MyCourses also after grading. If your points are correct in the Results table, there is nothing to worry about this.

		Min points for grade					Max points		
Grading table:		Grade	1	2	3	4	5	no feedback	with feedback
		Points	95	108	121	134	146	159	164

On feedback

To continuously improve the course, we will collect feedback for each exercise set and the project. To motivate you for giving feedback, we reward you with 1 bonus point for each feedback given.

<https://forms.gle/pb4mXPuzGoWAqNDj7>.