

Course information

October 25, 2022

Course period. 31 October 2022 to 16 December 2022 (lectures, exercises, computer labs). Schedule available [here](#).

In principle the lectures are given on campus. If I cannot come, I'll inform you via Canvas and we will use the following [zoom link](#) (Meeting ID: 627 6829 7711, Passcode: 31415).

If you have symptoms that prevent you from coming to the campus, please stay at home.

Important dates. Be aware that some of the dates below may be subject to change.

- Start of the lecture: 31 October 2022, 10:00.
- Final deadline for the reports of your computer labs: 01 February 2023.
- Last day to register for the exam: 21 December 2022. Contact me before the 16th of December via email (with a valid document from FUNKA) if you need more time for the exam.
- Exam: 14 January 2023 (08:30).
- Last day to register for the re-exam: 19 March 2023.
- Re-exam: 03 April 2023 (08:30).
- Last day to register for the re-re-exam: 30 July 2023.
- Re-re-exam: 17 August 2023 (14:00).

Exercises. A list of suggested exercises will be provided on Canvas in due time. If necessary, some exercises can be discussed during the exercise sessions. In principle, Mondays are reserved for *räknestuga*.

Teachers: [Ioanna Motschan-Armen](#) (Bt2) and [Johan Ulander](#) (K2).

Computer labs. This element of the course is assessed through a written lab report (1.5 ECTS). A list of computational tasks as well as detailed information are provided on Canvas. Submission of your lab reports are done via Canvas. If a report is not good enough, students have the possibility to (re)-submit one improved version of their report. It is not possible to submit a report more than two times. Do not hesitate to come to the supervised lab sessions to work on your projects and get support.

Teachers: [Ioanna Motschan-Armen](#) and [Eric Lindström](#) and [Johan Ulander](#).

Examination and grading (6 ECTS+1.5 ECTS).

- Element 1 (Theory, 6 ECTS) is assessed through written examination. Expectations for the written exam:
 - Students are expected to know and be able to apply the main definitions and results (statements and possibly some ideas of the proofs) from the lecture in order to solve various tasks. Students should explain, analyse, evaluate, and demonstrate their mastery of the course content.

- The exam may contain multiple choice questions, true and false questions, (parts of) proofs, or open-ended questions.
- The exam may contain industrial tasks (pure and easy computations) and questions assessing students critical thinking skills.
- If the exam takes place online, no detailed proofs will, most probably, be asked. In addition, you may be asked to check a box with a text like this: "Jag intygar att jag har skrivit denna tentamen på egen hand utan att ha fått hjälp från någon annan och att jag själva har formulerat alla mina lösningar."
- No questions will be answered by the teachers *5 days before the exam*.
- Being able to do previous exams do not imply success in this year's exam.

Grades: U, 3, 4 or 5. Preliminary grading limits: 3: 20-29p, 4: 30-39p and 5: 40-50p.

- Element 2 (Project, **1.5 ECTS**) is assessed through written lab reports. Grades: Fail (U) or Pass (G).
- To pass the whole course, all elements must have been passed. Grades (according to the grade obtained for Element 1): U, 3, 4 or 5.

Bonus points. Students have the possibility to get bonus points for the exam by doing various activities:

- Under *Canvas/Quiz* you will find weekly feedback surveys and self-test quizzes.

In order to encourage you to study regularly, a student that passes all self-test quizzes (but at most one) will earn **1 bonus point** for the exam. These quizzes are multiple choice questions. The following rules apply: The quizzes will be open from Fridays 10:00 to Saturdays 12:00. At most one mistake is allowed in each weekly quizz. Students can miss at most one weekly quiz.

- In order to encourage your active participation, a student will earn **1 bonus point** at the exam if she/he, at least, posts one question and answers two questions on Piazza (see below). These questions/answers must be relevant to the course and non-anonymous.

Awarded bonus points are only valid on the first two exam dates when the course is given.

Literature. The lectures should be self-contained and are based on the following references that one can consult if needed:

M. Asadzadeh and F. Bengzon: *Lecture notes in Fourier analysis*, available as .pdf at [link](#) and [errata](#). (*Main reference for the second part of the course*)

M. Asadzadeh: *An Introduction to the Finite Element Method for Differential Equations*, available as ebook under <https://www.wiley.com/> or via the [library](#). See also the physical version at chalmersstore.se or the previous draft as .pdf file. (*First reference for the first part of the course*)

G. Folland: *Fourier Analysis and Its Applications*,
available as ebook under [ebookcentral at Chalmers library](#).

M.G. Larson and F. Bengzon: *The Finite Element Method: Theory, Implementation, and Applications*,
available as ebook under [springer](#).

Canvas. All uploaded files will (most probably) be uploaded on the start page *Kursöversikt/Home*.
Please, set your Canvas account notification settings to get automatic updates of files and announcements.

Piazza. We will use [Piazza](#) (access code 31415) as a platform for discussion. You can ask questions that also other students can answer (teachers will monitor the platform and also answer questions). You can also ask questions anonymously (such questions cannot be counted for a bonus point).

The aim of this platform is to help to reach every students, allow us for not answering three times the same question. You are of course more than welcome to ask us questions in person, Piazza is not an ersatz for this!

You can also post a request to find a study buddy/teammates on Piazza.

Common practice: It may be better to answer a question, by not just providing the whole solution, but rather by giving a way to get to the solution. It may be a good idea to thank a student/teacher who answered your question(s).

For questions related to administration, please contact [Elisabeth Eriksson](#).

For all other relevant questions, feel free to post on www.piazza.com (especially if you think that an answer may also help other students) or send me an [email](#) or pass by my office (L2085).