Course information

January 12, 2021

Course period. 18 January 2021 to 05 March 2021 (lectures, exercises, computer labs). Schedule available here.

Important dates. This may be subject to change!

- Start of the lecture: 18 January 2021, 08:00 and 1 February 2021, 08:00 (MVE455) (perhaps a good idea to try to come to the lectures already from the start)
- Last day to register to the exam: 28 February 2021 (Chalmers) and 8 March 2021 (GU)
- Exam: 15 March 2021 (8:30-12:30)
- Last day to register to the re-exam: 24 May 2021 (Chalmers) and 2 June 2021 (GU)
- Re-exam: 9 June 2021 (14:00-18:00)

Lectures. Over zoom, password: 31415.

Exercises. The exercise sessions will take place over zoom.
Teacher: Malin Nilsson.

Assignments. The course contains two compulsory assignments (Matlab computer labs). Details will be provided in due time.
Teacher: Malin Nilsson.

Examination and grading (TMA372/MMG800/MVE455: 7.5/7.5/4.5 ECTS). To pass the course, students should pass the written exam and the two assignments. 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, 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 försäkrar att jag gjort tentan på egen hand utan att få hjälp från någon annan person och att jag själv formulerat alla lösningar.”
- No questions will be answered 6 days before the exam.

Bonus points. Students have the possibility to get bonus points for the exam by doing various activities (see below). The awarded bonus points are only valid on the first two exam dates when the course is given.

- Under *Canvas/Quiz* you will find a couple of feedback surveys and self-test quizes.

  In order to encourage you to study regularly, a student that passes all self-test quizes (one miss is allowed) will earn 1 **bonus point** for the exam. These quizes are multiple choice questions. The following rules apply: The quizes will be open from Fridays 10:00 to Saturdays 12:00. At most one mistake is allowed in each weekly quizes. 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). The questions/answers must be relevant to the course and non-anonymous.

- Doing parts of the mandatory assignments may also give students additional **bonus point(s)** to the exam. Details follow.

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 (password 31415) as a platform for discussion. You can ask questions that also other students can answer. You can also ask questions anonymously (such questions cannot be counted for a bonus point).

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

Literature.

M. Asadzadeh: *An Introduction to the Finite Element Method for Differential Equations*,
available under https://www.wiley.com/, see also chalmersstore.se or the .pdf file (there is also a (blue) compendium from October 23, 2018).

W.F. Ames: *Numerical Methods for Partial Differential Equations*,
available under www.lib.chalmers.se (open access).

D. Braess: *Finite Elements*,
available under www.cambridge.org (open access).

A. Iserles: *A First Course in the Numerical Analysis of Differential Equations*,
available under www.lib.chalmers.se (open access).

M.G. Larson and F. Bengzon: *The Finite Element Method: Theory, Implementation, and Applications*,
available under www.springer.com (open access).

E. Süli: *Lecture Notes on Finite Element Methods for Partial Differential Equations*,
available under www.suli.ac.uk (open access).

For questions related to administration, please contact Elisabeth Eriksson.

For all other relevant questions, feel free to send me an email. Even better, post your questions or comments on www.piazza.com if you think that an answer may help other students.