

Course PM

DIT322/TMV028, Finite automata and formal languages, 7.5 hec, spring 2020

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Course content:

See the syllabus.

Learning outcomes:

See the syllabus.

Course structure/course implementation:

There will be lectures and exercise sessions.

There are two sub-courses: assignments (1.5 hec), and written examination (6.0 hec).

Examination form:

The following is required to pass the course:

- Passed assignments.
- Passed written exam.

If both of these requirements are satisfied, then the final grade is the grade on the written exam. (There is a special rule for students registered for DIT321, see below.)

There are two kinds of assignments, quizzes and regular assignments. The following is required to pass this part of the course:

- The total score on the quizzes must be at least 50% of the maximum total score.
- The total score on the regular assignments must be at least 50% of the maximum total score.

The written exams are graded in the following way:

- The GU grades Pass (G) and Pass with Distinction (VG) correspond to the Chalmers grades 3 and 5, respectively.

- To get grade n on an exam you have to be awarded grade n or higher on at least n exercises.
- A completely correct solution of one exercise is awarded the grade 5. Solutions with minor mistakes *might* get the grade 5, and solutions with larger mistakes might get lower grades.
- Exercises can contain parts and/or requirements that are only required for a certain grade. To get grade n on such an exercise you have to get grade n or higher on every part marked with grade n or lower (and every unmarked part), and you have to fulfil every requirement marked with grade n or lower (as well as every unmarked requirement).

Authorised aids during the written exams (except for the aids that are always permitted): none.

After correction the graded exams are available in the student office in room 4482 of the EDIT building. If you want to discuss the grading, contact the examiner no later than three weeks after the result has been reported. In this case you should not remove the exam from the student office.

A special rule for students registered for DIT321: Are you a student registered for the old course DIT321? In that case there is an extra requirement to get VG (because the syllabus includes this requirement): Your combined total score for the assignments, the quizzes and the written exam must be at least 74% of the combined maximum score. For this purpose the exam question grades are converted to points in the following way: U: 0 points. 3: 3 points. 4: 4 points. 5: 5 points. If you have passed either the assignment part or the exam part of the course in a previous year, and pass (only) the other part this year, the old score is scaled. If your old score was S out of O , and the maximum score on that part this year is N , then you will be treated as if you got the score SN/O on that part this year. (This is assuming that S and O are known.)

The main written exam is held on 2020-03-19, 14:00-18:00.

There will be seven regular assignments. Deadlines (at 23:59): 2/2, 9/2, 16/2, 23/2, 1/3, 8/3 and 13/3.

You are free to cooperate with other students when solving the assignments. However:

- The assignments must be handed in individually.
- You must write down the solutions yourself, using your own words.
- You must be able to explain and discuss your solutions.

The assignments must be handed in via Fire, no later than the dates and times indicated above.

There will also be quizzes before most of the lectures. Deadlines: 23/1 (10:00), 27/1 (10:00), 28/1 (**8:00**), 30/1 (10:00), 3/2 (10:00), 6/2 (10:00), 10/2 (10:00), 17/2 (10:00), 20/2 (10:00), 24/2 (10:00), 27/2 (10:00), 2/3 (10:00), and 5/3 (10:00).

You are free to cooperate with other students when solving quizzes. However, you must be able to explain and discuss your solutions. Quizzes should be handed in individually using Canvas.

Course literature:

The following text book will be used in the course: "Introduction to Automata Theory, Languages, and Computation: Pearson New International Edition, 3/E" by Hopcroft, Motwani and Ullman (ISBN-10: 1292039051, ISBN-13: 9781292039053).

The reading list also includes other material that is or will be available online.

Schedule:

The schedule varies from week to week, see the official time table. At the time of writing preliminary plans for the lectures and exercise sessions can be found on the course web site.

Course evaluation:

The course will be evaluated, and Chalmers' normal course evaluation procedure will be followed.

Changes since last year:

The following are perhaps the main changes since last year:

- The exams are graded in a different way.
- The "74% rule" has been dropped (except for students registered for DIT321, because the rule is imposed by the syllabus for DIT321).

Some changes made based on or related to last year's course evaluation (links to minutes from two course evaluation meetings can at the time of writing be found via the course web site):

- Two sets of notes have been included in the reading list.
- More exercise solutions are available (in the form of solutions to two old exams).