Course PM

DIT321/TMV027, Finite automata theory and formal languages, 7.5 hec, spring 2019

Examiner and main lecturer: Nils Anders Danielsson (http://www.cse.chalmers.se/~nad/).

Assistants: Thomas Sewell (sewell@chalmers.se), Marco Vassena (http://www.cse.chalmers.se/~vassena/).

Course content:

See the syllabus.

Learning outcomes:

See the syllabus.

Course structure/course implementation:

There will be lectures, exercise sessions and consultation time.

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

Examination form:

The course consists of two parts:

- A written exam. Grade limits:
    - Grade G/3: At least 45% of the maximum score.
    - Grade 4 (this is inapplicable to GU students): At least 63% of the maximum score.
    - Grade VG/5: At least 81% of the maximum score.
- Assignments. 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.

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The following is required to pass the course (GU grade G/Chalmers grade 3):

- A pass on the assignment part of the course.
- Grade G/3 on the written exam.

The following is required to get the Chalmers grade 4 (this is inapplicable to GU students):

- A pass on the assignment part of the course.
- Grade 4 on the written exam.

The following is required to get the GU grade VG or the Chalmers grade 5:

- A pass on the assignment part of the course.
- Grade VG/5 on the written exam.
- At least 74% of the total number of points available for the assignments (including quizzes) and the written exam.

  Added 2019-01-31: For students who 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 the student's score on that part was S out of O, and the maximum score on that part this year is N, then the student will be treated as if she or he got the score SN/O on that part this year. (This is assuming that S and O are known.)

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

For the times and locations of the written exams, see the official exam schedule.

There will be seven regular assignments. Deadlines (at 23:59): 3/2, 10/2, 17/2, 24/2, 3/3, 10/3 and 15/3.

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. If there is a quiz, then it will be announced at the latest during the previous lecture. There are no quizzes before the first two lectures. Unless otherwise noted the deadline for Monday lecture quizzes is 15:00 the previous Friday, and for other lectures 15:00 the previous day.

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.

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Course literature:

The following text book will be used in this 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 might also include 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 pages.

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:

- New examiner.
- The final grade is computed in a different way.
- Preparation quizzes before the lectures.
- Potentially less lecturing in the lectures.
- Some forms of collaboration are allowed when solving assignments.

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