

TSKS02 Telecommunication

Course Information Autumn 2018

General

TSKS02 Telecommunication is an orientation course primarily intended for computer science students and students on some engineering Bachelor programs. It is focused on describing some methods used in modern telecommunication systems.

Time

Teaching is offered according to the following.

- Lectures: $11 \times 2 = 22$ hours
- Tutorials: $8 \times 2 = 16$ hours
- Laborations: $3 \times 4 = 12$ hours

Course Litterature

- Mikael Olofsson, Telecommunication Methods, version "June 2011". Can be purchased at Bokakademin in Kårallen.
- Mikael Olofsson, Telecommunication Methods - Problems, version "August 2010". Can be purchased at Bokakademin in Kårallen.
- Lab Memo that can be downloaded from the course room in Lisam.

The material used in the engineering course TSKS01 Digital Communication can be used as additional - somewhat in-depth - reading for interested students, but is not at all required in this course.

Teachers

- Lectures and Examination:
Mikael Olofsson, Entrance B27, Top Floor, Corridor A, Office 3A:455,
Telephone 281343, mikael.olofsson@liu.se.
- Tutorials and Laborations:
Özgecan Özdoğan, Entrance B29, Top Floor, Corridor A, Office 3A:455,
Telephone 282037, ozgecan.ozdogan@liu.se.

Examination

The examinationen consists of two parts, which are reported separately to LADOK:

- TEN1 (4 hp) is a traditional written exam, and
- LAB1 (2 hp) consists of three laboratory exercises.

TEN1: Written Exam

The written exam consists of two parts: a question part and a problem solving part.

- The *question part* consists of three questions, where you are asked to elaborate on (or explain) topics from this course. These questions can give you at most five points each. You need at least five points from this part of the exam as partial fulfillment to pass.
- The *problem solving part* consists of three traditional problems. These problems can give you at most five points each. You need at least five points from this part of the exam as partial fulfillment to pass.

In total, you can get at most 30 points. Allowed aids during the exam: Paper, pencil, eraser, and pocket calculator. A Q-table is always appended to the exam, as well as a sheet with relevant equations.

Grading (Swedish grades):

- Grade 3 (pass): 12 points
- Grade 4: 17 points
- Grade 5: 22 points

The Swedish grades are translated to ECTS grades according to 3=C, 4=B, and 5=A.

LAB1: Laborations

There are three laboratory exercises in this course, namely

1. Analog modulation
2. Digital modulation
3. Coding methods

All these laboratory exercises are scheduled as four-hour sessions and are supposed to be performed in pairs. You should be able to finish each lab in the scheduled four hours. You pass each lab by reporting your findings to your lab teacher before leaving the lab session. If you are not done with the laboratory exercise after those four hours, you have to finish it by yourselves and then hand in a brief written report to your lab teacher. The laboratory exercises are reported to Ladok as LAB1 when you have passed all three labs.

Total grade for the course

After you have passed all laborations and the written exam, you will get a grade for the complete course, which is identical to the grade that you got on the written exam.