



EQ2444 Project in Communication Engineering 7.5 credits

Projekt i kommunikationsteknik

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for EQ2444 valid from Spring 2019

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Electrical Engineering

Specific prerequisites

Individual admission to the course.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

After passing the course, the student shall be able to collaborate in teams solving a technical problem and be able to apply the theoretical knowledge acquired in previous courses in digital communications and related topics. The student shall also be able to document and present the project work.

In addition the student shall be able to acquire knowledge for a specific application area and to perform

- simpler forms of DSP-programming, and/or
- simpler forms of PC-programming, and/or
- simpler forms of programming on another platform e.g. smart-phone and/or
- simpler forms of practical project management, and/or
- practical algorithm development (from theory to test and refinement on a prototype)

Course contents

A group of 2-7 students will carry out a project with the goal to produce a prototype that fulfils a given specification before a certain deadline. The students are responsible for planning and performing the project, i.e. to divide the projects into subprojects, make a time table, distribute the workload, and decide by whom they should be solved.

The groups are formed by the course responsible based on the preferences of the students. It is not always possible to satisfy the wishes of all the students, i.e. some students may have to work on projects that are not their primary choice. This is also true regarding the split of work between the members of the group.

There are several possible solutions to the problems. During the project, the students will therefore face many practical problems that must be solved. An objective of this course is to give training in how to acquire knowledge in order to make the "correct" design decisions. The students will thereby learn how to acquire the theoretical and practical knowledge needed for the assigned project.

The course concludes with an oral presentation and demonstration of the prototype. Written documentation should be produced while working on the project. The requirements on the oral and written presentations are similar to the requirements on a Master's degree project.

Every student will focus on one or a few of the areas of DSP-programming, PC-programming, programming of other platforms, project management, algorithm development or special application knowledge. Support in the form of lectures, literature and on-line information is available for all these areas.

The students should also write a "reflective diary" during the course of the work. The students should use this diary to collect evidence of their learning with respect to the intended learning outcomes. Examples of such evidence are performance curves (with explanations), descriptions on the use of methods/tools, or detailed descriptions of technical problems that have occurred.

Course literature

Relevant literature depends on the selected project.

Examination

- PRO1 - Project, 7.5 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

Other requirements for final grade

PRO1 - Project, 7.5 cr.

The grade will be determined by the students' achievements in relation to the intended learning outcomes. The project assignments are designed to enforce the students to achieve the intended learning outcomes (ILOs). The success of the group deliverables (primarily the prototype and the final report) can be seen as a measure of the collective knowledge of the group with respect to the ILOs. In order to determine the grades of the individual students the following sources will be considered, among others 1) the tasks given to the student in the project plan and weekly reports 2) the success of the group in the areas where the student was active 3) the reflective diary (where the students are told to present evidence of their learning), 4) observations made by the course responsible and the assistants made in the laboratory during the course of the work.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.