

Course-PM: IL2206 Embedded Systems (7.5 ECTS), Period 1, 2020

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1 Course Information on the KTH Webserver

Please visit the course information page for this course on the KTH webserver, which specifies among others the *course contents*, the *intended learning outcomes*, and the *prerequisites* for the course.

2 Course Structure

The course consists of 17 lectures, 2 seminars and 3 laboratory sessions. Students have to complete the laboratory tasks within their available laboratory sessions, and their seminar tasks within the seminar sessions. There will be two occasions per study year to pass the written exam.

3 Course Material

The course will distribute lecture notes during the course. In addition, the course will use material from different books and other sources, including industrial documentation. The course page in Canvas provides links to this material, which in general will be available online.

4 Grading

The course uses the grading scale A-F. In order to pass the course the student has to pass the final exam (TEN1; 4.5hp) and to complete the laboratory course (LAB1; 3hp). The grade of the exam will also be the grade for the whole course.

The examination is aligned with the intended learning outcomes, where one learning outcome is examined in the laboratory course and the other three learning outcomes as individual parts in the written exam.

4.1 Written Exam

The written exam has three parts (Part A, B and C), where each part corresponds to an individual learning outcome of the course. In order to pass the exam, the student has to pass all three parts (A-C) of the exam.

The individual parts correspond to the following learning outcomes:

- Part A: *The student should be able to describe the fundamental structure of the platform for embedded computer systems and explain cooperation between the software and the hardware components*
- Part B: *The student should be able to analyse how architecture and implementation decisions influence the performance in an embedded system*
- Part C: *The student should be able to use basic models and analytical methods for embedded realtime systems*

For passing a particular part A, B or C, 50% of the available points in the corresponding part are required.

The exam grade is then calculated of the sum of the points in the individual parts. The grading scheme is illustrated in the following table.

Points Part A	Points Part B	Points Part C	Total Points	Grade	Comment
$\geq 50\%$	$\geq 50\%$	$\geq 50\%$	$\geq 90\%$	A	
$\geq 50\%$	$\geq 50\%$	$\geq 50\%$	$\geq 80\%$ and $< 90\%$	B	
$\geq 50\%$	$\geq 50\%$	$\geq 50\%$	$\geq 70\%$ and $< 80\%$	C	
$\geq 50\%$	$\geq 50\%$	$\geq 50\%$	$\geq 60\%$ and $< 70\%$	D	
$\geq 50\%$	$\geq 50\%$	$\geq 50\%$	$< 60\%$	E	
$< 50\%$	$\geq 50\%$	$\geq 50\%$	$\geq 50\%$	FX	Completion exam Part A
$\geq 50\%$	$< 50\%$	$\geq 50\%$	$\geq 50\%$	FX	Completion exam Part B
$\geq 50\%$	$\geq 50\%$	$< 50\%$	$\geq 50\%$	FX	Completion exam Part C

In all other cases, which means if the student does not achieve 50% of the total points, or if the student does not pass two of the individual parts, the student will receive the grade F.

When a student has received the grade FX, the student has the possibility for a completion exam in the part, which the student did not pass. The student needs to request a completion exam by sending an e-mail to the examiner with the subject header "[IL2206] Completion Exam" within 7 days of the reception of the grade. If the student passes this completion exam, the grade E will be awarded, otherwise the student fails the exam with the grade F.

When a student has received the grade F, the student has to write a new exam. This exam is regarded as completely new exam.

4.2 Laboratory Course

The laboratory course addresses the following learning outcome: *The student should be able to develop software for simple embedded real time systems.*

In order to pass the laboratory course, each student has to

- complete the laboratories including preparation tasks and have them approved by a course assistant. Although laboratories are done in a group of two students, each student has to demonstrate her individual knowledge to pass the laboratory. Students have to book time slots for the examination of the laboratories.
- complete the seminar preparation tasks and have them approved by a course assistant, and actively and in a constructive way contribute to the seminars.