

Course analysis for IK1330 Wireless Systems

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COURSE DESIGN

The course is designed to give an overview of wireless systems. It is divided into five parts: transmission fundamentals, radio links, wireless networks, wireless systems, and tele-economics. The learning activities consist of 13 lectures, three seminars, two labs, and two case studies, where the first one is divided into two parts. The case studies are very open-ended and are designed to train the students to find their material and decide how to analyze and present the case study. The course is examined by the seminars (participation), the case studies (written reports and opposition reports and oral presentations), and the labs. There is no written exam.

Changes from the last course round:

1. Organize the case studies into smaller, clearer tasks for a pass grade: The case study part on radio links was divided into one simple task and one more advanced task.
2. Focus the course content on new technologies: The lectures on mobile networks and radio technologies were revised and focused on 4G and 5G technologies.
3. Field trip to Tele 2.

THE STUDENTS' WORKLOAD

Workload for case studies is still high for the case studies. New lectures have focused less on calculations, more on overall structure and new technologies. This changed the focus of the case studies more on qualitative overviews rather than quantitative results.

THE STUDENTS' RESULTS

10 of 13 registered students passed the course or 77%, which is less than last year's 79%

OVERALL IMPRESSION OF THE LEARNING ENVIRONMENT

There were three teachers and two assistants involved in the course. Most of the course was given in class rooms, while some in Zoom. The modules were divided between the teachers, while one teacher handled all the seminars. The seminars work as intended but the problems need to be revised to fit the change of content. Also the problem needs to be revised more often to discourage plagiarism. Case studies should probably be divided up into even smaller tasks to make it less stressful for the students, alternatively change the examination to just seminars with different kind of problems as an examination. The current form of case studies are also very time consuming to grade.

Other things to consider is if the course contents should be more focused, but that would be result in a different course.

We also need to change on the labs as the software for planning wireless coverage is old and discontinued. Alternatives is to use some newer kind of software or more practical labs using for example SDR (HF) or Raspberry Pi (Wifi and Bluetooth connectivity).

Due to the examiner's workload the grading was delayed beyond what could be expected.

PRIORITY COURSE DEVELOPMENT

1. Revise seminar problems
2. Revise structure of case studies or change the examination
3. Revise course introduction page
4. Revise one lab.

OTHER INFORMATION

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