

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 economics and structure of telecom markets. 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 the labs. There is no written exam.

Changes from the last course round:

- Design the time structure of the course carefully to allow for more time for the last case study.
- Require an oral presentation of both case studies, not just written reports.
- The telecom market case study has been changed to a tele-economics study instead. That means that the case study is better aligned with the rest of the course.
- The course was given digitally in Zoom except for the labs.
- Canvas was used for advertising and booking supervision meetings for the case studies

THE STUDENTS' WORKLOAD

The LEQ indicates a workload of 30 hours/week. It is somewhat higher than anticipated, even though some students have indicated that much work in previous years.

THE STUDENTS' RESULTS

11 of 14 registered students passed the course or 79%, which is less than last year's 90%

OVERALL IMPRESSION OF THE LEARNING ENVIRONMENT

There were just two responses for the LEQ, with one student having a very negative view and one student having a more favorable impression of the learning environment.

The course is one of the last courses before the degree project and is intended to train the students to take on an open-ended case study. This means that the problem is less well-defined, and students need to study many different sources to solve the case study's problems. If one expects a regular course with an exam, that might lead to a very negative view of the course.

My impression was that most of the groups realized the intent of the course and were successful in analyzing and presenting the case studies. However, the digital format of the course also meant that non-organized student-teacher contacts, such as discussions at the break between lecture hours, disappeared. This might have added to the problems with the case studies for some of the students.

ANSWERS TO OPEN QUESTIONS

The tele-economics part of the course gets some praise for how it is organized. Suggested improvements to focus more on newer technologies rather than fundamental concepts.

Therefore, the case studies for the different groups should focus on the same technologies to not miss out on a certain technology. Also that the case studies might be too large and that it would be better with smaller incremental studies. I think that organizing the case studies into

smaller and much clearer defined tasks for a pass grade might be a good way to help students unsure where to start. For higher grades, then those students can apply this acquired knowledge to solve more complex problems. The smaller incremental task might also improve the time management of the course.

Lecture slides could also be improved with more explanations for students using them as source material.

PRIORITY COURSE DEVELOPMENT

1. Organize the case studies into smaller, clearer tasks for a pass grade
2. Do a careful time-plan for the studying
3. Focus the course content on new technologies
4. Extend the lecture slides with more material intended for studying as source material.

OTHER INFORMATION

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