FIK3622 Advanced Topics in Communication Systems 15.0 credits

Avancerade ämnen i Kommunikationssystem

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

Establishment

Course syllabus for FIK3622 valid from Autumn 2017

Grading scale

G

Education cycle

Third cycle

Specific prerequisites

PhD students

Language of instruction

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

Intended learning outcomes

After completion of the course, the student should be able to:

o identify and select a relevant research problem and formulate research issue
o devise a suitable and structured scientific methodology for addressing the problem
o give examples of and describe relevant related work
o integrate learning from different sources into solutions to the problem
o review other research project work and give constructive feedback
o take feedback non-defensively and constructively
o make research presentations interesting and enjoyable to others
o apply correct and appropriate scientific writing
o identify and describe examples of sustainability aspects related to the topic
o demonstrate possibilities and limitations of the solution and reflect over its role in society

Course contents

The course implements problem-based learning driven by projects where students plan, carry out, present, discuss, and review individual research projects. PhD students often participate in larger research projects and normally have challenges when it comes to identifying and formulating their own research problems which can be further investigated to produce results suitable for a conference or a journal paper. This course is intended to develop these skills. By identifying and addressing relevant research problems in parallel with other students, the students will learn advanced technology issues and become more familiar with various research methodologies. At the same time, they will become aware of many other aspects related to addressing research problems. The students will also develop their skills in presenting research work both orally and in writing, as well as regarding reviewing and discussing each others work.

Disposition

This is a project-oriented course where the student carries out individual research work and regularly presents and discusses the work at meetings with other students and the teaching team. There are 10-15 2-hour bi-weekly course meetings throughout the course. The students will give short presentations of the different phases of the work, such as problem statement and methodology, related research, and progress of the technical work performed (design and implementation, simulations, performance evaluations, etc).
The course also includes review of technical work (e.g., design, code, modelling and simulation), peer reviews of written work and sessions when oral feedback is given by other students and the teaching team.
The final deliverable is a final presentation and an individual research paper which is submitted to a suitable conference or journal, with the student as the main author.

Course literature

Forskningsartiklar

Examination

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.

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.