



FSD3901 Integrated Transport System 5.0 credits

Integrerat transportsystem

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

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

Establishment

Course syllabus for FSD3901 valid from Autumn 2017

Grading scale

Education cycle

Third cycle

Specific prerequisites

Ongoing research project. PhD student must be at least one year in to his or her research studies.

Language of instruction

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

Intended learning outcomes

The student shall after the course be able to:

- Describe and communicate how own research contributes to an integrated and sustainable transport system
- Understand important concepts and tools within transport system analysis, environmental analysis, business models, user perspective and vehicle engineering
- Demonstrate a wide understanding about other research areas than one's own
- Describe and get insight into different aspects of transport research
- Develop a critical approach to future transport system

Course contents

- Lectures from selected areas connected to transport (transport system analysis, environmental analysis, user perspectives, business models, vehicle engineering and from partner companies to ITRL centre)
- Participation in seminars held by ITRL centre within the transport area
- Presentations by participating PhD students about own research
- Report writing
- Exam

Disposition

To solve the challenges that the transport area are facing there is a need for an integrated way of thinking with systems perspective. No single research area can solve effectively and in a sustainable way the challenges that we are facing. The idea behind this course is to give the PhD students a systems perspective on transport research and a wider understanding of different research areas.

This is done through lectures in the beginning of the course that is 2h each and about selected areas. Some lectures will be split up in one part lecture and one part assignments. The lectures are intended to give the PhD students an overview and wider knowledge about different subjects that is of importance to solve the future transport challenges. During the course, there will also be an exam held on the content of the lectures given during the course.

The PhD students are also expected to participate on at least three seminars held by ITRL research centre. The seminars are project presentations from ITRL or invited guest lectures. The PhD students are expected to write critical reflections on at least three of these seminars.

To train the PhD students presentation skills, two types of presentation held by the PhD students will be organised. The first presentation in the beginning of the course is a short presentation with feedback that aims to give all PhD students information about what other PhD students do research on. The other longer presentation shall include information about the analysis method or data used that could be of interest for other PhD students in the course. This is done to give the PhD students a building block for future collaboration even after the PhD course.

To train the independence of the PhD students, they will in pairs of two write a research grant proposal about a selected subject with an integrated transport systems perspective. Here, the PhD students are also trained in their ability to think from a systems perspective and to formulate clear problem descriptions and research goals. Here every group will be reading and giving feedback on two other groups grant proposals.

Course literature

Course literature will include slides from at least six lectures as well as scientific articles related to the subject of the lectures.

Equipment

No special equipment required.

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.

Other requirements for final grade

- Participate in at least 6 lectures
- Participate in at least 3 ITRL seminars and write reflections on 3 of them
- Short presentation of own research project at start of course
- Longer presentation of own research project with emphasis on tools and methods that could be of interest for other PhD students and projects
- Assignment: Write a grant application (2 persons)
- Give feedback on two other assignments
- Smaller written online exam on lecture material

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.