FAH3450 Emerging Concepts and Practice in Transport 3.0 credits

Nya koncept och tillämpningar inom transport

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

The course plan is valid from spring term 2022 according to decision: A-2021-1991.

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

Language of instruction

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

Intended learning outcomes

This course provides an overview of novel concepts emerging from research in several transport fields and bridges them to real-world applications. The course results from a collaboration between different departments at KTH (Transport & System analysis, Transport planning, Vehicle Dynamics) and Linköping University (within the TRENoP strategic vision). Therefore, the course investigates several topics, including active mobility, city logistics, public transport, and rail transport

The focus of the course is on new concepts and methodologies emerging from academia, the industry, and the public sector. In particular, the nexus between research and practice is analysed by looking at how academic researchers and transport practitioners tackle different real-world transport problems. Each section is centred around one theme and involves the participation of experts from the industry and public sector. The academic researchers present different methodologies and necessary theoretical background to understand and tackle the transport problems presented in each thematic area. The guest lecturers show how different relevant issues are addressed in real-world practice.

The course will take a problem-oriented approach where pertinent methodologies will be highlighted along with reflections, critical discussions and engagement from practice and policy.

For the assessment of the course, the participants will prepare an elevator pitch at the beginning of the course and a reflection essay at the end. Active engagement during seminars and workshop sessions would also be expected. In the elevator pitch they present their research and for the essay the students are to write a reflection about how the course relates to their individual research topic based on the different perspectives that are discussed.

To use the opportunity that doctoral candidates of different domain interact with each other as well as with researchers from academia and representatives from industry and authorities, half a day is reserved for a networking event.

Course contents

This course aims to provide knowledge on transportation; therefore, the intended learning outcomes are formulated accordingly. At the end of the course the participants should be able to:

1. Identify the relations between (different fields of) transport research and practice.
2. Discuss the most relevant methods to tackle emerging transportation problems in different fields.
3. Critically discuss the opportunities and challenges of bridging theory and practice in the transportation field.
4. Apply the learned skills and knowledge acquired during the course to reflect on their own research area.
5. Discuss the problems, trends and future potential of vehicles, infrastructure, and business models in the context of changing economic system and social requirements.

Examination

- INL1 - Assignments, 1.5 credits, grading scale: P, F

- SEM1 - Seminar, 1.5 credits, grading scale: P, F

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

Participation in the workshop as well as the two assignments are mandatory for examination.

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.