LUND UNIVERSITY

LTH
FACULTY OF ENGINEERING

Course syllabus

Transportmanagement
Transport Management

VTTN05, 7,5 credits, A (Second Cycle)

Valid for: 2023/24
Faculty: Faculty of Engineering, LTH
Decided by: PLED V
Date of Decision: 2023-02-07

General Information

Elective for: V5-tv
Language of instruction: The course will be given in English on demand

Aim

This course is for students who want to deepen your knowledge of how transports can be affected by actions other than pure infrastructure-related. The course provides an understanding of how various actions might affect the transport demand. Emphasis is placed on the identification and understanding of different solutions and an analysis of its potential for a shift towards sustainable modes. Emphasis is placed on the need and importance of a holistic approach to transport - both freight and passengers. This course will encourage interdisciplinary collaboration and provide an understanding of the interplay between various planning levels, sectors and stakeholders.
The course aims to give students an insight and understanding of how today's transport development can be affected by various measures. After completing the course, the students will be familiar with various measures and the social debate controversies surrounding transportation impacts, and be able to perform simple assessments of the transfer potentials.

Learning outcomes

Knowledge and understanding
For a passing grade the student must

- Have good knowledge of various actors in the transport area
- Have a good understanding of the conflicting objectives with respect to traffic managing and reducing policies and measures aimed at sustainable freight and passenger travel

- Have a good knowledge about different types of action at global and operational level.
- To identify and analyze issues regarding the implementation of measures affecting transport demand
- Able to estimate the potential of various measures aiming at a transfer to sustainable transport modes

Competences and skills
For a passing grade the student must

- Analysing potentials of measures aiming at a transfer to sustainable transport modes
- Present synthesized knowledge in report form and give an oral presentation directed to policy makers

Judgement and approach
For a passing grade the student must

- Independently seek and critically assess the relevance of supporting documents from various sources
- Independently respond to community discussion and debate on urban development and climate actions.

Contents

The course is divided into three blocks that gradually build on each other. In the first block a picture is given of the sustainability problem that incorporates both environmental and other social and economic aspects. The same block also deals with various actors in society who/which has an influence and impact of different transport modes and transport volumes. Examples: Authorities at national, regional and local level, on-profit organisation, personal and freight and carriers, personal and freight. Public choice theory (vote maximization and short-sightedness) is discussed to give students a picture of the various players incentives to take decisions. This block ends with a picture of today's transport flows and how the infrastructure is financed.

The next block deals with various policies and measures aimed at sustainable passenger and freight transport. A variety of measures at different levels are discussed. Examples: Actions at global level (policies, strategies, economic instruments, planning measures and sustainable supply chains) and actions at the operational level (ITS, mobility management, parking strategies, "Green corridors", accessibility measures and restricted access "in urban areas). In connection with any action or policy discussed, is the influence of different actors and sectors of society analysed. Conflicts that are discussed include individuals' acceptance of different measures (Stated - Revealed) and conflicts between sustainability and economic growth.

The third block contains different types of information about actions and potentials for changes in demand for transport (passenger and cargo), and calculations. Areas covered include various factors on transport demand transport mode selection (parts of 4-step model), calculation of changes in transport demand and transport mode selection by use of elasticities and calculation of changes in CO2 emissions. This block also discusses the future base for fuel consumption and alternative fuels.

The form of teaching consists of lectures and exercises that must be analysed, solved and discussed from different points of view. The final report is presented in the form

of a scientific paper. The paper is grade-based. The exercises are performed in groups. Feedback is given on all exercises. Feedback on the final report is given in writing.

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)
Assessment: Satisfactory project work (approved final project report, active participation). The grade is awarded on the basis of the final project report (written content and oral presentation).

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Admission

Admission requirements:

- VTTF01 Traffic Engineering or VTVA50 Transports and Society

Assumed prior knowledge: VTTN15 Traffic Engineering and Analysis OR VTTF05 Traffic Engineering Theory AND VTTF10 Effects of Traffic.
The number of participants is limited to: No

Reading list

- Banister, David: Unsustainable Transport - City transport in the new century. Routledge, 2005.
- A course library of basic litterateur (national and international reports and scientific papers, etc.) are available to students during lectures and via the electronic library. In addition, a list of additional literature (relevant SOU reports, current policy and target documents, etc.) will be distributed at the beginning of the course.

Contact and other information

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