

Course syllabus

Trafikens effekter: Tillgänglighet, Framkomlighet, Säkerhet och Miljö Effects of Traffic: Accessibility, Level of Service, Safety and Environment

VTTF10, 7,5 credits, G2 (First Cycle)

Valid for: 2023/24

Faculty: Faculty of Engineering, LTH

Decided by: PLED V

Date of Decision: 2023-03-21

General Information

Compulsory for: IBYV3

Language of instruction: The course will be given in Swedish

Aim

The aim of the course is to give the course participants more thorough and applicable knowledge about traffic and its effect on the environment, traffic safety, accessibility and level of service. Participants will be provided with tools to estimate and analyze the effects of traffic and will have the opportunity to apply these on a real case in existing traffic environment. After completing the course, participants will be familiar with different measures on an overall and local level as well as their expected effects. Participants will gain a system-view about concurrent respectively conflicting interests in the work towards sustainable transport.

Learning outcomes

Knowledge and understanding

For a passing grade the student must

- Have knowledge about methods for measuring and estimating level of service, traffic safety, accessibility, noise and exhausts
- Understand the aspects of security

- Have knowledge about the most important measures to change / improve level of service, accessibility, security, traffic safety, traffic noise and air-pollution caused by traffic
- Understand how road user behaviour changes due to different measures
- Have a good understanding of the relation between traffic planning and its effects

Competences and skills

For a passing grade the student must

- Have the ability to define required data in order to estimate the effects of traffic in a traffic environment and to accomplish the data collection
- Have the ability to use different software for calculating the effects of traffic and to critically judge the reliability
- Write reports with correct citations based on exercises and application on a real case in existing traffic environment and associated analyses
- Discuss and orally present the results of the own project report
- Gain a system view regarding traffic effects on different levels and have the ability to discourse about how measures regarding improving level of service, accessibility, security, traffic safety, traffic noise and air-pollution can be concurrent or in conflict with each other

Judgement and approach

For a passing grade the student must

- Finding relevant information for further studies and application of the course content in their professional role as an engineer

Contents

The course is based on five themes: Accessibility, Level of service, Safety, Environment and Aggregation of all qualities for all types of road users. Each theme lasts for 1-2 weeks and includes lectures, exercises, data computation, field studies and application of theme elements on the own project. The project is a piece of existing traffic environment. Some topics are closed by a longer seminar where findings are discussed. During the project students are provided with continuous written feedback and at the end of the course the project is presented in a written project report (consisting of individual and group common parts) and presented orally.

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)

Assessment: For a passing grade: approved exercises, approved project work, approved oral presentation and presence at the obligatory parts are needed. The grade is awarded on the basis of the project work report consisting of both individual and group contributions. Assessment is carried out with the teaching goals as a basis.

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:

- VTVA50 Transports and Society

Assumed prior knowledge: VTTF05 Traffic Engineering Theory

The number of participants is limited to: No

The course overlaps following course/s: VTVN15, VTVN20, VTT141

Reading list

- Elvik, R., Erke, A., Vaa, T., Borger, A.: Trafikksikkerhetshåndboken. TØI, Oslo, Norge, 1997.
- Hydén, Christer (red.): Trafiken i den hållbara staden. Studentlitteratur AB, 2008, ISBN: 9789144053011.
- Vägverket: TRAST 'Trafik för en attraktiv stad', www20.vv.se/vag_traf/vgu-trast/trast.
- On top of this there will be a list of relevant literature, from which most titles will be available either for download or at the study centre.

Contact and other information

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Course homepage: <http://www.tft.lth.se>