



*Course syllabus*

# Trafikteknik Traffic Engineering

**VTTF01, 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

**Main field:** Technology.

**Compulsory for:** V3

**Elective for:** L4

**Language of instruction:** The course will be given in Swedish

## Aim

The aim of the course is that the students should develop insights into:

- The interaction between the development of the society and transportation.
- The driving forces in transportation.
- Variables affecting the effects of transportation.

## Learning outcomes

*Knowledge and understanding*

For a passing grade the student must

- Have knowledge about how the transport system can contribute to a sustainable development
- Have knowledge about the historical development of transportation and the driving forces in this development,
- Understand the role of freight and personal transport for the commercial sector, for various public functions and in our everyday life,
- Be able to account for the political transport objectives
- Be able to describe the connection between variables affecting the generation of traffic such as localization of industry and habitation,
- Understand how models are used to make traffic forecasts,

- Understand different planning principles,
- Have knowledge about different groups of road users needs and preferences
- Have knowledge about different transport modes and their planning conditions

#### *Competences and skills*

For a passing grade the student must

- Be able to apply traffic engineering methods for, among other things, calculating the demand for personal transport with different transportation modes under different basic scenarios,
- Be able to analyse the effects different changes can have on society
- Be able to analyse traffic data and suggest suitable measures to solve elemental problems in traffic
- Be able to discuss and analyze in written reports

## Contents

The course contains the following themes:

- A sustainable transport system: What does sustainability imply within the transportation sector and how can one aim for a sustainable transport system?
- Development of traffic: How has personal transportation and freight changed throughout history, what is the situation like today and how do we expect it to change in the future under different assumptions?
- Planning principles: An overview of the different principles and ideals that have characterized the urban planning in Sweden, in particular the traffic planning.
- Prognosis models on different levels
- The political objectives in transportation and the planning process. How is the distribution of resources done and how does the planning process for an infrastructure project work?
- Transport modes: Planning conditions for car, bus, cycling and walking. How do the different modes differ from each other in a planning perspective for example when it comes to capacity and design?
- Traffic safety
- Accessibility for road users with special needs.

Within these themes several assignments are made with oral as well as written presentation. Teachers give oral and written feedback. Field studies with supervision from teachers are carried out as a part of the assignments.

## Examination details

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

**Assessment:** Grades are determined from written exam and project works.

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

**The number of participants is limited to:** No

**The course overlaps following course/s:** VTT100, VTT131, VTVF05

## Reading list

- Christer Hydén (red): Trafiken i den hållbara staden. Studentlitteratur, 2008, ISBN: 978-91-44-05301-1.

- Göran Cars, Bo Malmsten, Patrik Tornberg: Bana väg för infrastruktur. KTH, 2009, ISBN: 978-91-7415-233-3.
- Boverket: Samordna planeringen för bebyggelse och transporter. ISBN: 978-91-7563-084-7.
- Trafikverket & SKL: Gångbar stad. ISBN: 978-91-7585-017-7.
- Trafikverket & SKL: Trafik för en attraktiv stad, En introduktion till TRAST. ISBN: 978-91-7585-099-3.
- Programledning V: Anvisningar för rapporter på V-programmet. 2015. Available on the programme's website.

## Contact and other information

**Examinator:** Andreas Persson, [Andreas.Persson@tft.lth.se](mailto:Andreas.Persson@tft.lth.se)

**Course coordinator:** Andreas Persson, [Andreas.Persson@tft.lth.se](mailto:Andreas.Persson@tft.lth.se)

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

**Further information:** The course contains lectures and a number of project assignments in small groups. Oral and written feedback is given on the assignments. Field work under supervision is done.