

*Course syllabus*

# Projektering av järnvägens tekniska system

## Design of the Technical Systems in Railways

**VTVF81, 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:** IBYI3

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

### Aim

The aim of the course is for the students to understand railway planning and design processes and to apply the planning and design methods given by the course.

### Learning outcomes

*Knowledge and understanding*

For a passing grade the student must

- Give an account of railway planning and design processes
- Give an account for track deterioration due to traffic

*Competences and skills*

For a passing grade the student must

- From real and assumed prerequisites identify functional requirements and system requirements to the detail level "Feasibility study".
- Account for made analyses and deductions in a "Feasibility study". The report must show the students ability to use the given planning methods and verification tools.

- Be able to define a railway structure to the level of "Design Basis" by further study of a chosen alternative.
- Account for the results of project work in a final report to the level of "Design Basis". The report should define the technical solutions required to fulfil the functional requirements and system requirements.

## Contents

- Railway and environmental legislation
- Requirements engineering
- Cost/benefit analysis, effects and consequences
- Descriptions of environmental consequences
- Technical solutions
- Traffic planning tools
- The deterioration of railway constructions
- Project work

## Examination details

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

**Assessment:** Approved project work.

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
- VTVA45 Road and Railway Engineering or VTVA46 Road and Railway Engineering

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

**The course overlaps following course/s:** VTVF80, VTVF65, VTVF25

## Reading list

- Manuals and Papers, Järnvägsskolan. Hand outs and literature choosen by the students.

## Contact and other information

**Examinator:** Andreas Persson, andreas.persson@tft.lth.se

**Course coordinator:** Markus Gustavsson, markus.a.gustavsson@trafikverket.se

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

**Further information:** The course is held at Campus Helsingborg.