



LUNDS UNIVERSITET
Lunds Tekniska Högskola

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 chosen by the students.

Contact and other information

Examiner: 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.