AF2903 Road Construction and Maintenance 7.5 credits

Vägdimensionering, byggande och underhåll

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

Course syllabus for AF2903 valid from Autumn 2007

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Built Environment

Specific prerequisites

AF2901 Road- and Railway Track Engineering

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

Upon completion of this course the student will be able to:

- Describe typical construction equipment and techniques used in bituminous highway pavement construction.
- Illustrate familiarity with typical road maintenance techniques.
- Understand about specifications and quality assurance/quality control techniques used in bituminous pavement construction.

Course contents

- Introduction to highway construction, maintenance, and road management
- Serviceability/performance concepts for hot mix asphalt pavements
- Distresses in hot mix asphalt pavements
- Asphalt mixture types
- Hot mix asphalt plant and transportation operations
- Asphalt plant and hauling issues, including segregation
- Asphalt pavers, and mixture factors affecting compaction
- Compaction equipment, and field conditions which affect compaction
- Rolling patterns
- Types of density specifications used for hot mix asphalt construction
- Measurement of density
- Bidding methods
- Specification development
- Sampling
- Quality control/quality assurance
- Preventive maintenance
- Patching mixtures
- Selection of materials for pavement maintenance
- Corrective maintenance
- Rehabilitation
- Reconstruction
- Engineering services and estimation of quantities
- Maintenance of low volume roads

Course literature

Will be announced at the beginning of the course.

Examination

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

Other requirements for final grade

Passed written exam (4,5 cr)
Passed exercises (3 cr)

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.