FSD3311 Kalker´s Wheel-Rail Contact Methods 3.0 credits

Kalkers metoder för hjul-rälkontakt

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

Establishment

Course syllabus for FSD3311 valid from Autumn 2018

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

SD3310 Wheel-Rail Contact.

Language of instruction

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

Intended learning outcomes

The course aims at the understanding of the widely applied methods by Kalker. Theoretical background and approaches to numerical solution in the context of dynamic simulations are

addressed.The course includes participation in a relevant external short course and home assignments.

Course contents

Overview of different contact theories, rolling contact, linear and non-linear theories for the tangential contact problem, Kalker's complete theory, Kalker's simplified theory, numeric implementation of Kalker's theories.

Course literature

J. J. Kalker: Three-dimensional elastic bodies in rolling contact

J. J. Kalker: Rolling Contact Phenomena - Linear Elasticity.

Examination

- INL1 - Assignment, 3.0 credits, grading scale: G

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.

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

Other requirements for final grade

Compulsory lectures, seminar with presentation of a selected topic, home assignments.

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.