

SYLLABUS

Vehicle Dynamics 2 7.5 credits M0033T

Fordonsdynamik 2

Course syllabus admitted: Autumn 2023 Sp 1 - Present

**DECISION DATE
2021-02-17**

Vehicle Dynamics 2 7.5 credits M0033T

Fordonsdynamik 2

First cycle, M0033T

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	U G#	Maskinkonstruktion	Mechanical Engineering

Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language and Any of the courses vehicle dynamics (M0019T) or mechanical vibrations (M0015T) as well as computer-aided design (M0010T),

Selection

The selection is based on 1-165 credits.

Course Aim

Divided into 3 categories below, after completing the course you as a student shall:

1. Knowledge and understanding

- Understand how computational tools can be used to conduct vehicle dynamic analyses.
- Understand how vehicle tests shall be performed for evaluation and validation purposes.

2. Skills and abilities

- Be able to perform important dynamic analyses and tests for the automotive industry by using relevant tools and methods.
- Be able to model, simulate and analyse vehicle systems and sub-systems with respect to dynamics by using computational tools.

3. Ability of assessment and attitude

- Have the ability to perform vehicle dynamic tests with focus on the collection and analysis of measured data and validation of simulation result
- Have the ability to perform feasibility assessments during vehicle dynamic calculations and tests.

Contents

The course focus on the car system and in addition other vehicle systems will be treated in different sections.

The course contains:

- Modeling of vehicle dynamic systems and sub-systems (powertrain, wheels, suspensions, etc.)
- Simulation and analysis of vehicle dynamical models (solution algorithms, settings, evaluation, etc.)
- Vehicle testing (measuring, testing, standards, analysis, evaluation, etc.)
- Validation

Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

The course is carried out through lectures, computer exercises and assignments.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided. Approved assignments.

Unauthorized aids during exams and assessments

If a student, by using unauthorized aids, tries to mislead during an exam or when a study performance is to be assessed, disciplinary measures may be taken. The term "unauthorized aids" refers to aids that the teacher has not previously specified as permissible aids and that may assist in solving the examination task. This means that all aids not specified as permissible are prohibited. The Swedish version has interpretative precedence in the event of a conflict.

Course offered by

Department of Engineering Sciences and Mathematics

Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0001	Compulsory assignments	U G#	7.5	Mandatory	A16	

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

Last revised

by Head Faculty Programme Director Niklas Lehto 2021-02-17

Syllabus established

by Mats Näsström 2016-02-15