



Faculty of Health, Science and Technology
Mechanical Engineering

Syllabus

Vehicle Engineering

Course Code:	MSGC54
Course Title:	Vehicle Engineering <i>Fordonskonstruktion</i>
Credits:	15
Degree Level:	Undergraduate level
Progressive Specialisation:	First cycle, in-depth level of the course cannot be classified (GXX)

Major Field of Study:
MTA (Mechanical Engineering)

Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2024-02-14, and is valid from the Autumn semester 2024 at Karlstad University.

Prerequisites

Registered in a programme of study at Karlstad University, with 60 ECTS credits completed

Learning Outcomes

The aim of the course is for students to acquire knowledge of vehicle engineering through simultaneous participation in the project Formula Student. Areas covered include construction, production, project engineering, economy, and marketing.

Upon completion of the course, students should be able to:

- demonstrate broad knowledge of the proven experience of the area, and familiarity with current development efforts in vehicle engineering,
- demonstrate the ability to use previous subject knowledge to critically, independently, and creatively identify, formulate, and handle complex issues related to the project,
- demonstrate the ability to create, analyse, and critically assess different vehicle

engineering solutions, in accordance with current regulations,

- demonstrate the ability to plan and use adequate methods to complete qualified tasks within the specified framework of the project,
- demonstrate the ability to design and handle products and systems in line with societal goals for economic, social, and ecological sustainable development,
- demonstrate the ability to participate in teamwork and collaboration in diverse groups, and
- demonstrate the ability to present and discuss information, problems, and solutions in dialogue with different groups, orally and in writing.

Content

The course is in the form of a project in vehicle engineering in accordance with the guidelines of Formula Student. Students plan, organise, and carry out projects independently under teacher supervision.

Reading List

See separate document.

Examination

Examination is in the form of written hand-in assignments and project reports completed individually and in groups, seminars, oral presentations, and an individual final report.

If students have a decision from Karlstad University entitling them to Targeted Study Support due to a documented disability, the examiner has the right to give such students an adapted examination or to examine them in a different manner.

Grades

One of the grades Fail (U), Pass (G), or Distinction (VG) is awarded in the examination of the course.

Quality Assurance

Follow-up relating to learning conditions and goal-fulfilment takes place both during and upon completion of the course in order to ensure continuous improvement. Course evaluation is partly based on student views and experiences obtained in accordance with current regulations and partly on other data and documentation. Students will be informed of the result of the evaluation and of any measures to be taken.

Course Certificate

A course certificate will be provided upon request.

Additional information

The local regulations for studies at the Bachelor and Master levels at Karlstad University stipulate the obligations and rights of students and staff.