



Faculty of Technology and Science  
Mechanical Engineering

## Syllabus

### Course Approval

The syllabus was approved by the Faculty Board of Technology and Science on 28 May 2009, and is valid from the Spring semester of 2009 at Karlstad University.

**Course Code:** MSGC54

**Vehicle Engineering, 15 ECTS Credits**

**(Fordonskonstruktion, 15 Swedish credit points)**

**Degree Level:** Bachelor

**Progression Level:** C

### Language of Instruction

Swedish

### Prerequisites

Courses of 60 ECTS cr on the engineering, economy, media or communication programme and documented experience of vehicle construction project

### Major Field of Study

Mechanical Engineering

### Learning Outcomes

The aim of the course is that students build a vehicle in accordance with client specification and with the rules and regulations for Formula Student, and participate in an international competition in which components such as presentation, design technique, cost analysis, acceleration, manoeuvrability, speed, fuel consumption and durability are assessed.

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

- critically, independently and creatively identify, formulate and deal with complex issues and participate in development work,
- apply knowledge in their subjects to carry out a major technical development project,
- plan and carry out qualified tasks within specified frames and time limits using adequate methods,
- use systematic project management methodology to plan, carry out and evaluate projects,
- develop and design products, processes and systems with regard to human potential and needs,
- identify their need of further knowledge and continuous ability upgrading,
- work and cooperate in groups of different composition in international and interdisciplinary and gender-aware environments,
- present and discuss, orally and in writing, their conclusions and underlying facts and arguments in national and international contexts.

### Content and Form of Instruction

The course is in the form of a vehicle engineering project in which students work in a project organisation with a project management and project groups which are responsible for different parts of the project from design to

organisation, economy and information. The students manage the project independently under supervision and are responsible for the contacts with companies and organisations that the project requires.

#### Reading List

See separate document.

#### Examination

Examination is in the form of written and oral subgoal project group reports.

#### Grades

One of the grades Fail (U) or 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 assessment is based on student views and experiences as reported in written course evaluations and/or group discussions. Students will be informed of the result of the evaluation and of the measures to be taken.

#### Course Certificate

A course certificate will be provided upon request.

#### Additional Information

Students who enrolled before 1 July 2007 will complete their studies in accordance with the requirements of the earlier admission. Upon completion students may request degree and course certificates to be issued under the current ordinance if they meet its requirements.

The local regulations for studies at the Bachelor's and Master's levels at Karlstad University, ref. C2007/368, stipulate the obligations and rights of students and staff.

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