



*Course syllabus*

# Formula student 2 - Genomförande och avslut Formula Student 2 - Implementation and Closure

**MVKP50, 7,5 credits, A (Second Cycle)**

**Valid for:** 2023/24

**Faculty:** Faculty of Engineering, LTH

**Decided by:** PLED M

**Date of Decision:** 2023-04-11

## General Information

**Elective for:** M4-tt, MD4

**Externally elective for:** C4, D4, E4, I4, N4

**Language of instruction:** The course will be given in English on demand

## Aim

This course aims to provide knowledge and experience in project form under strict deadlines. The students design and manufacture a complete car concept in the form of a formula car, where the entire process from initiation, feasibility study, planning, implementation and closure is treated.

This course deals with the implementation and closure of inherited problems from Formula Student 1 - Initiation, Pre-Study and Design. In the course, students will shoulder all the roles of a project group and through the course gain skills in applying knowledge from previous courses such as mechanics, electrical engineering, programming, solid mechanics, construction technology, manufacturing methods and vehicle technology. Along the way student will face challenges and learn about group development, teamwork, project management, budgeting, marketing and presentation.

## Learning outcomes

### *Knowledge and understanding*

For a passing grade the student must

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- understand the relevance of their area
- based on prepared material, be able to choose manufacturing method/ approach/ strategy for implementing the set plan and goals
- understand the value of discontinue and closure.
- understand design/ planning implications on manufacturing, assembly and testing.

#### *Competences and skills*

For a passing grade the student must

- acquire the necessary knowledge to realize/manufacture planned/constructed parts of the project
- analyse problems that arise during implementation and suggest a constructive solution
- assess the inherited problem through testing
- be able to apply knowledge from previous courses
- through a report clearly document their work and experiences for knowledge transfer to future projects/ course participants

#### *Judgement and approach*

For a passing grade the student must

- demonstrate the ability to make assessments/ changes with regard to relevant technical, economic and time aspects and demonstrate awareness of its impact on other project aspects and deadlines,
- show insight into the possibilities and limitations of their area, its role in the project and people's responsibility and cooperation on how to implement and finalize the project,
- demonstrate the ability to identify their need for additional knowledge and to continuously develop their skills after completing the project.

## Contents

Implementation and completion of an inherited area in the Formula Student project, in which the student wishes to deepen their knowledge. The course deals with manufacturing steps, revision of design for manufacturing and evaluation of realized solutions. Relevant study visits, guest lecturers and trade fairs are included in the course and are arranged by the students themselves in consultation with the course coordinator. If the student wants and has the opportunity, he/she can voluntarily participate with Lund Formula Student in an international competition against other universities in Europe.

## Examination details

**Grading scale:** UG - (U,G) - (Fail, Pass)

**Assessment:** Report of selected area and oral presentation. The report is written independently or in groups, and is reviewed by the team members, the feedback and a corrected report is submitted to the course coordinator. The presentation takes place in a fictitious competition element, where each course participant presents and defends their problem area. The following headings must be dealt with in the report based on the objectives in the course: - Inherited problem area - Problem formulation -

Selected solution/manufacturing method based on the inherited problem - The solution's impact on the rest of the project - Evaluation and reflection of results The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

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## Admission

### Admission requirements:

- Completed a minimum of 100 credits within relevant programme

**Assumed prior knowledge:** ??051 Formula Student 1 - Initiation, Pre-study and Design

**The number of participants is limited to:** No

**The course overlaps following course/s:** MVKP05

## Reading list

- Selected specifically for each problem area in consultation with the supervisor and examiner.

## Contact and other information

**Course coordinator:** Marcus Lundgren, [marcus.lundgren@energy.lth.se](mailto:marcus.lundgren@energy.lth.se)

**Examinator:** Marcus Lundgren, [marcus.lundgren@energy.lth.se](mailto:marcus.lundgren@energy.lth.se)

**Examinator:** Martin Tunér, [martin.tuner@energy.lth.se](mailto:martin.tuner@energy.lth.se)

**Course homepage:** <https://www.energy.lth.se/english/education/>

**Further information:** The course is conducted in form of projects with consultations and supervision.