Aircraft Aerodynamics - Project Course

Programme course

6 credits

Aircraft Aerodynamics - Project Course

TMMV26

Valid from: 2021 Spring semester

Determined by
Board of Studies for Mechanical Engineering and Design

Date determined
2020-09-29

Main field of study
Aeronautical Engineering, Mechanical Engineering

Course level
Second cycle

Advancement level
A1X

Course offered for
- Mechanical Engineering, M Sc in Engineering
- Master's Programme in Aeronautical Engineering

Entry requirements
This course concludes a master profile for the M and AER program and it is required that the student has already passed the preparatory profile courses. Prior to the start of the course, the examiner/director of studies will verify that participating students have sufficient knowledge, see information under Prerequisites.

Prerequisites
Aerodynamics basic and advanced courses, Computational fluid dynamics basic and advanced, Engineering Systems Design, Aircraft conceptual design, Prototype Realization - project course.

Intended learning outcomes
The aim of the course is to developing skills for making an integrated aerodynamic analysis of an aircraft concept. After completing the course the students will

- be able to transform a conceptual design into a model for an aerodynamic analysis, and for design refinement.
- have knowledge about using CFD tools for aerodynamics.
- be able to define design cases for aerodynamic analysis.
- be able to analyze and present the results from the analysis in a scientific way
- have skills to plan and conduct the work efficiently.

Course content

Theory and methodology from previous courses are used to conduct an aerodynamic analysis of a concept. Improvements are evaluated and proposed. Planning and time management in order to deliver results on time.

Teaching and working methods

The course is carried out as a project with regular meetings. In addition there can be lectures in project specific technology when needed. The result from the project is a design of product presented orally and in a written report.

Examination

PRA1	Project work	6 credits	U, G

Grades

Two-grade scale, U, G

Course literature

Material from previous courses.

Other information

About teaching and examination language

The teaching language is presented in the Overview tab for each course. The examination language relates to the teaching language as follows:

- If teaching language is Swedish, the course as a whole or in large parts, is taught in Swedish. Please note that although teaching language is Swedish, parts of the course could be given in English. Examination language is Swedish.
- If teaching language is Swedish/English, the course as a whole will be taught in English if students without prior knowledge of the Swedish language participate. Examination language is Swedish or English (depending on teaching language).
- If teaching language is English, the course as a whole is taught in English. Examination language is English.

Other

The course is conducted in a manner where both men's and women's experience and knowledge are made visible and developed.

The planning and implementation of a course should correspond to the course syllabus. The course evaluation should therefore be conducted with the course syllabus as a starting point.

Department
Institutionen för ekonomisk och industriell utveckling

Director of Studies or equivalent
Roland Gårdhagen

Examiner
Roland Gårdhagen

Course website and other links

Education components
Preliminary scheduled hours: 48 h
Recommended self-study hours: 112 h