

# 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	U, G	6 credits
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## 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