Aircraft Aerodynamics - Project Course

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6 credits

Programme course

TMMV26

Valid from: 2023 Spring semester

Determined by	**Main field of study**	
Board of Studies for Mechanical Engineering and Design	Aeronautical Engineering, Mechanical Engineering	
Date determined	**Course level**	**Progressive specialisation**
2022-08-31	Second cycle	A1X
Revised by	**Disciplinary domain**	
	Technology	
Revision date	**Subject group**	
	Mechanical Engineering	
Offered first time	**Offered for the last time**	
Autumn semester 2020		
Department	**Replaced by**	
Institutionen för ekonomisk och industriell utveckling		

Course offered for

- Master of Science in Mechanical 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

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 could be given in Swedish, or partly in English. Examination language is Swedish, but parts of the examination can be in English.
- If teaching language is “English”, the course as a whole is taught in English. Examination language is English.
- 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.

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.

The course is campus-based at the location specified for the course, unless otherwise stated under “Teaching and working methods”. Please note, in a campus-based course occasional remote sessions could be included.

If special circumstances prevail, the vice-chancellor may in a special decision specify the preconditions for temporary deviations from this course syllabus, and delegate the right to take such decisions.