

Aerodynamics, Continued Course

Programme course

6 credits

Aerodynamik fk

TMMV56

Valid from: 2017 Spring semester

Determined by

Board of Studies for Mechanical
Engineering and Design

Date determined

2017-01-25

Offered for the last time

Spring semester 2021

Replaced by

TMMV63

Main field of study

Aeronautical Engineering, Mechanical Engineering

Course level

Second cycle

Advancement level

A1X

Course offered for

- Mechanical Engineering, M Sc in Engineering
- Mechanical Engineering, Master's programme

Specific information

The course has been withdrawn

Entry requirements

Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

Prerequisites

Aerodynamics basic course

Intended learning outcomes

The aim is to provide skills so that the student can use advanced tools to conduct aerodynamic calculations aiming to assess performance like lift and drag etc. This means identification of the problem and a suitable approach to model the flow, and to analyze, assess, and evaluate the results.

Course content

- Repetition of basic aerodynamic terminology.
- Fundamental CFD (e.g. mesh, discretization, and numerical schemes) is discussed.
- The course primarily deals with inviscid flow (Euler calculations). The influence of viscosity for different flow problems and how to handle this will be discussed briefly.
- Compressible effects, like shock waves, and how to handle these.
- Flow around aircraft will be in focus.

Teaching and working methods

Seminars, computer exercises, and laboratory exercise.

Examination

LAB1	Laboratory work	2 credits	U, G
UPG1	Assignments	4 credits	U, 3, 4, 5

Grades

Four-grade scale, LiU, U, 3, 4, 5

Department

Institutionen för ekonomisk och industriell utveckling

Director of Studies or equivalent

Johan Renner

Examiner

Roland Gårdhagen

Course website and other links

<http://www.iei.liu.se/mvs/utbildning/avancerade-kurser/tmmv56?sc=true&l=en>

Education components

Preliminary scheduled hours: 44 h

Recommended self-study hours: 116 h

Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://stydokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.