



SD2601 Fundamentals of Flight

7.5 credits

Flygteknik

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

The course syllabus is valid from Fall 2022 according to the school principal's decision: S-2021-1603 Decision date: 2022-04-14.

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Specific prerequisites

Completed degree project on Bachelor level.

English B / English 6

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

The objectives of the taught part of course are that a student, upon completion of the course, should be able to:

- describe the component and subcomponents of an aircraft
- describe, define or explain the basic concepts of flight, aircraft aerodynamics, aircraft performance and flight mechanics, and evaluate the correlation between the basic concepts,
- calculate aerodynamic and flight performance as well as flight mechanics through simple and integrated problems.

The objectives of the project part of the course are that a student, upon completion of the course, should be able to:

- Apply taught theory and concepts based on critical thinking to develop basic professional skill.

Course contents

The course focuses on the broader aspects of flight, which includes a list of required subjects as prior knowledge of the aerospace track within the master's degree in aerospace technology. The topics will focus on the introduction to the aircraft and the function of each main component and a selection of sub-components, aircraft aerodynamics, aircraft performance, stability and control of aircraft, propulsion and aerostatic flight.

Examination

- PRO1 - Project, 1.5 credits, grading scale: P, F
- PRO2 - Project, 3.0 credits, grading scale: P, F
- TEN1 - Examination, 3.0 credits, grading scale: P, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

Examination in the course will take place during three separate lectures, with each examination lasting 30 minutes. Each examination will include a maximum of 10 multiple-choice questions, focusing on the basic concepts introduced during the lectures. The examinations in the course aim to partially evaluate the learning outcomes of the taught part of the course and give immediate feedback to the students about their grasp of the basic concepts in the subject.

Written examination will take place during the exam week at the end of period 1 and consists of a problem-based 4-hour essay. The exam is closed book and closed notes. Additional information that is relevant to the examination will be included in the exam paper. The

written examination aims to assess all learning outcomes for the teacher-led part of the course.

Other requirements for final grade

The course's grade scale is A to F, with a minimum grade of E to be achieved in order to pass the course, and where F represents a failed grade. The grading scale is based on a percentage scale from 0% to 100%, with 50% corresponding to the lowest approved grade E on each part. The results on each part must be at least 50% for approval. The results from the parts are weighted together to form a final grade for the course. In order to be approved, all parts must be approved.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.