Aircraft Systems Engineering - Project Course

Programme course

6 credits

Aircraft Systems Engineering - Project Course

TMAL08

Valid from:

Determined by

Date determined

Main field of study
Mechanical Engineering

Course level
Second cycle

Advancement level
A1X

Course offered for
- Mechanical Engineering, M Sc in Engineering

Prerequisites
Engineering Systems Design, Aircraft conceptual design, Prototype Realization.

Intended learning outcomes
This course is aimed at developing skills for making an integrated analysis of an aircraft system. AFter completing the course the student will

- be able to apply transform a conceptual design into a system model for integrated analysis, for performance analysis, sensitivity analysis, and for design refinement.
- be able to create simulation models of onboard systems
- have knowledge about simple automatic flight control system
- be able to Simulate nominal mission, and missions with different fault injections, or non-nominal features.
- have experience from working in a team with product development.

Course content
The course can be seen as a continuation of the Prototype Realization course. In this course the design built as prototype will be further analyzed and further refined. To a varying degree, students will work with CAD-modelling, dynamic simulation and other analysis techniques, to assess also sensitivity to uncertainties in the design. The course contains some lectures on project specific technology.

Teaching and working methods
The course is carried out as a project with regular meetings. In addition there are lectures in project specific technology. The result from the project is a design of product, a physical demonstrator a written report

Examination

PRA1	Project work	6 credits	U, 3, 4, 5

Grades

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Department

Institutionen för ekonomisk och industriell utveckling

Director of Studies or equivalent

Peter Hallberg

Examiner

Patrick Berry

Education components

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