Module description

Module title: Core Avionics
Abbreviation: 10-I-MEC-092-m01

Module coordinator: holder of the Chair of Computer Science VIII
Module offered by: Institute of Computer Science

ECTS: 9
Method of grading: numerical grade
Only after succ. compl. of module(s):
Duration: 1 semester
Module level: undergraduate
Other prerequisites: Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).

Contents:
Fundamental principles of data processing, especially for aerospace applications. What is information? Guidance for reliable systems, analogue, digital, FPGAs, radiation effects, micro programming, CPUs, DMAs, memory, memory organisation, system architecture, input and output, sensors and actuators, energy systems, reliability, fault tolerance. Programming of embedded systems in C++.

Intended learning outcomes:
Understanding of analogue and digital data processing in embedded systems. Structure of hardware and programming. Embedded programming in C++, knowledge about common sensors and actuators as well as input and output systems.

Courses:
V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment:
written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examination of one candidate each, a 30 minute (approx.) oral examination in groups of 2 and a 40 minute (approx.) oral examination in groups of 3.

Allocation of places:

Additional information:

Referred to in LPO I:
(examination regulations for teaching-degree programmes)

Module appears in:
Bachelor' degree (1 major) Aerospace Computer Science (2009)