Module title: Introduction to Core Avionics Hardware
Abbreviation: 10-I-MEC-141-m01

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

ECTS: 10
Method of grading: numerical grade
Duration: 1 semester
Module level: undergraduate
Other prerequisites: --

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

Method of assessment:
written examination (approx. 120 minutes) and approx. 6 practical exercises (approx. 6 exercises, approx. 4 hours each), weighted 1:1

Allocation of places:
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Additional information:
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Referred to in LPO I (examination regulations for teaching-degree programmes):
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Module appears in:
Bachelor’ degree (1 major) Aerospace Computer Science (2014)