

Module description

Module title					Abbreviation
Core Avionics 10-I-MEC-092-m01					
Module coordinator				Module offered by	
holder of the Chair of Computer Science VIII				Institute of Computer Science	
ECTS Method of grading		Only after succ. compl. of module(s)			
9 numerical grade					
Duration		Module level	Other prerequisites		
1 semester		undergraduate	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? Gui- dance for reliable systems, analogue, digital, FPGAs, radiation effects, micro programming, CPUs, DMAs, memo- ry, memory organisation, system architecture, input and output, sensors and actuators, energy systems, reliabili- ty, 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 pro- gramming. Embedded programming in C++, knowledge about common sensors and actuators as well as input and output systems.					
Courses (type, number of weekly contact hours, language — if other than German)					
V + Ü (no information on SWS (weekly contact hours) and course language available)					
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)					
written examination (approx. 80 to 90 minutes). If announced by the lecturer by four weeks prior to the examina- tion date, the written examination can be replaced by an oral examination of one candidate each or an oral ex- amination in groups. A 80 to 90 minute written examination is equivalent to a 20 minute (approx.) oral examina- tion 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					
Workload					
Teaching cycle					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Bachelor's degree (1 major) Aerospace Computer Science (2009)					
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