Hochschule München University of Applied Sciences

Courses in English
Course Description

Department	07 Computer Science and Mathematics
Course title	**Advanced Embedded Software Project**
Course number	IG-THI-0010
Hours per week (SWS)	4
Number of ECTS credits	5
Course objective	The students will be able to analyze and evaluate the selection of application software and firmware for embedded systems based on a current topic in the field, and create, design, and test solutions as leaders of a team. The students will be able to model and implement application software and firmware on resource-constrained hardware, selecting and deploying suitable operating systems or Board Support Packages based on the specific use case. The students will be able to organize, lead, and manage embedded software projects in an advanced environment, while guiding project teams through their execution.
Prerequisites	Programming skills in C/C++; Basic experience in developing software for Embedded Systems
Recommended reading	Topic-specific literature depending on the specific project: "Developing Modern Real-Time Systems," by Quade, J., Mächtel, M., Dpunkt Verlag, Heidelberg, 2012
Teaching methods	Project-based learning, student presentations, demos, readings
Assessment methods	40% Group performance in the project; 30% individual performance in the project; 30% individual presentation
Language of instruction	English
Name of lecturer	Prof. Dr. Benedikt Dietrich
Email	benedikt.dietrich@hm.edu
Link	https://cs.hm.edu/kontakte_de/phonebook_detailseite_92992.de.html
Course content	Depending on the project goal, software for an advanced embedded system is designed and implemented as part of a joint project on predetermined, resource-constrained hardware. In the process, current and required development environments (e.g., embedded OS, IDEs, and environments for testing, debugging, host-target development, etc.) need to be researched and selected. The organization and execution of the project is led by the participants. The participants will present the developed aspects of the project in presentations.
Remarks	