Courses in English
Course Description

Department 04 Electrical Engineering and Information Technology

Course title Simulation of car racing with Matlab/Simulink

Hours per week (SWS) 4

Number of ECTS credits 5

Course objective To learn how to simulate a car racing with Matlab/Simulink

Prerequisites Basic knowledges in physics

Recommended reading Course material will be provided by the instructor

Teaching methods lecture, 50% intensive hands-on laboratory

Assessment methods laboratory assignments, 1 final exam

Language of instruction English

Name of lecturer Prof. Dr. Alfred Irber

Email alfred.irber@hm.edu

Link http://ee.hm.edu/fk04/profs/irber.de.html

Course content
* Basic skills of using Matlab/Simlink
* Realtime simulation using Raspberry Pi and Arduino
* Modelling and simulation of the physical car model
* Automatic code generation (C-Code) with real time workshop
* Implementation of generated software on a microcontroller
* Hardware in the loop-testing

Remarks The course is suitable for all technical fields of studies