

Course Manual ESP

Embedded system project

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– General information

Long name Embedded system project

Approving CModule [ESP_BaTIN](#)

Responsible Prof. Dr. Tobias Krawutschke
Professor Fakultät IME

Valid from summer semester 2022

Level Bachelor

Semester in the year summer semester

Duration Semester

Hours in self-study 114

ECTS 5

Professors Prof. Dr. Tobias Krawutschke
Professor Fakultät IME

Requirements Course Embedded Systems

Language German, English if necessary

Separate final exam No

Literature

W.Wolff: Computers as Components: Principles of Embedded System Design

Wieringa: Design Methods for reactive Systems

Gessler, Mahr: Hardware/Software Codesign

– Lecture / Exercises

Learning goals

Goal type	Description
Skills	ES Development Hardware Selection Device selection Understanding device descriptions (manuals) Application of modelling methods Generation of a system model Refinement of system components Modelling behavior Implementation Design of special components Integration of devices Development of tests, testing Building a prototype using mechanical/electrical parts
Skills	Handling of complex tasks with a team Project planning Contract fulfilling in time Presentation System design Intermediate work report Result presentation

Expenditure classroom teaching

Type	Attendance (h/Wk.)
Project	2
Tutorial (voluntary)	0

Special requirements

none

Accompanying material undefined

Separate exam Yes

Separate exam

Exam Type EN Projektaufgabe im Team bearbeiten (z.B. im Praktikum)

Details

Grading of the project in several parts

- 1) The student teams present and defend their results reached during the phases analysis, technical conception, implementation of prototype in scheduled meetings to show their competencies in planning, development and integration of technical systems.
- 2) The teams write a documentation using a predefined form. With presentations and the report, they show their competencies to interact with clients (either external stake holders or role of the docent), appliers, social environment and team members.
- 3) The students individually undergo a colloquium that shows their ability to analyze and evaluate requirements, concepts and system implementations.

Minimum standard

Team: Delivery of work results in time, presentation of results or obstacles if result couldn't reached, written report according to the form
Individual: Valuable participation in the team's work, understanding the system, its modelling, design, implementation and its behavior