Technology Arts Sciences
TH Köln

Course Manual EPR

First term project

— General information

Long name	First term project
Approving CModule	EPR_BaET, EPR_BaOPT
Responsible	Prof. Dr. Michael Gartz Professor Fakultät IME
Valid from	winter semester 2020/21
Level	Bachelor
Semester in the year	winter semester
Duration	Semester
Hours in self-study	24
ECTS	2
Professors	Prof. Dr. Michael Gartz Professor Fakultät IME Prof. Dr. Uwe Oberheide Professor Fakultät IME
Requirements	interest in electrical engineering intereset in industrial automation, power engineering, communications engineering or optical technology
Language	German, English if necessary
Separate final exam	No

Literature

Informationen zum µController auf www.aduino.cc

− Lecture / Exercises

Learning goals

Goal type	Description
Skills	Taking responsibility for themselfs and for their team; To realize projects with abstract objectives and to tackle a project scope in work-sharing manner by teamwork; To structure tasks, to define sub-goals and intersections, to develope implementation concept in work-sharing manner, to realize, check, optimize and document them; to integrate partial solutions, to evaluate and optimize together product prototypes to communicate in goal-oriented and regardful manner; to make binding arrangements and comply with them; With the help of self-reflection estimate the own proficiency level in correct manner and with the help of autonomous, goal-oriented learning close or diminish competence holes. They are able to develope, assess and exert learning- and working-strategies. The are able to work under laboratory conditions and can recognize if the work has been done in engineer manner, that means a planned operation, or if it was unstructured and inefficient.
Knowledge	first programming knowledge and knowledge to one of the four themes: electric generator, labyrinth robot, remotely controlled robot or automatic updated telescope. The students got to know the infrastructure of the faculty and have arrived in the academic studies.

Expenditure classroom teaching

Type	Attendance (h/Wk.)

Special requirements

Accompanying material	templates of the activity reports, competence passports and reviews in form of data files
Separate exam	Yes

Separate exam

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

Project	2
Tutorial (voluntary)	0

Details

During the project phase the students prepare project- and product documentations with rough product specifications and well-founded development decisions, which show that the students have understood the project tasks and that they have analyzed the requirements out of the project design. With this prepared documents the students should show that they have synthesized approaches based on the research results and have exerted these to realize the project. Formalized product-reviews which have to be prepared will help to make the evaluation of the done work packages of the project. Daily activity reports of the working process and the collection of own competences in the beginning of the project and at the end revises the self-reflection.
The project result has to be shown and presented during the final competition or the final presentation which is different for each area of specialisation. Furthermore the operational capability of the project result has to be shown.

Minimum standard	all activity reports prepared to make sense all self-reflection of own competences before and after the project phase prepared to make sense at least 8 of 19 days contributed intensely one's services to the project and prepared parts of the reviews, the technical documentation and of the project-documentation