

# Course Manual EPR

First term project

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## – 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  
interest in industrial  
automation, power  
engineering,  
communications  
engineering or optical  
technology

**Language** German, English if  
necessary

**Separate final exam** No

## Literature

Informationen zum  $\mu$ Controller auf [www.arduino.cc](http://www.arduino.cc)

## – Lecture / Exercises

### Learning goals

| Goal type | Description   |
|-----------|---|
| Skills    | <p>Taking responsibility for themselves and for their team;</p> <p>To realize projects with abstract objectives and to tackle a project scope in work-sharing manner by teamwork;</p> <p>To structure tasks, to define sub-goals and intersections, to develop implementation concept in work-sharing manner, to realize, check, optimize and document them;</p> <p>to integrate partial solutions, to evaluate and optimize together product prototypes</p> <p>to communicate in goal-oriented and regardful manner;</p> <p>to make binding arrangements and comply with them;</p> <p>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.</p> <p>They are able to develop, assess and exert learning- and working-strategies.</p> <p>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.</p> |
| Knowledge | <p>first programming knowledge and knowledge to one of the four themes: electric generator, labyrinth robot, remotely controlled robot or automatic updated telescope.</p> <p>The students got to know the infrastructure of the faculty and have arrived in the academic studies.</p>  |

### Special requirements

none

|                              |   |
|------------------------------|---|
| <b>Accompanying material</b> | templates of the activity reports, competence passports and reviews in form of data files |
|------------------------------|---|

|                      |     |
|----------------------|-----|
| <b>Separate exam</b> | Yes |
|----------------------|-----|

### Separate exam

|                  |  |
|------------------|--|
| <b>Exam Type</b> | EN Projektaufgabe im Team bearbeiten (z.B. im Praktikum) |
|------------------|--|

### Expenditure classroom teaching

| Type | Attendance (h/Wk.) |
|------|--------------------|
|      |                    |

|                      |   |
|----------------------|---|
| Project              | 2 |
| <hr/>                |   |
| 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.

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**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