

# Course Manual GE1

Electrical Engineering (Basics)

Version: 1 | Last Change: 06.10.2019 14:20 | Draft: 0 | Status: vom verantwortlichen Dozent freigegeben

## – General information

**Long name** Electrical Engineering  
(Basics)

**Approving CModule** [GE1\\_BaET](#)

**Responsible** Prof. Dr. Rainer  
Kronberger  
Professor Fakultät IME

**Valid from** winter semester  
2020/21

**Level** Bachelor

**Semester in the year** winter semester

**Duration** Semester

**Hours in self-study** 132

**ECTS** 5

**Professors** Prof. Dr. Rainer  
Kronberger  
Professor Fakultät IME

**Requirements** math, physics

**Language** German

**Separate final exam** Yes

## Literature

Hagmann G., Grundlagen der Elektrotechnik, Aula-Verlag

Hagmann G., Aufgabensammlung zu den Grundlagen der Elektrotechnik, Mit Lösungen und ausführlichen Lösungswegen, Aula-Verlag

Albach, Manfred, Elektrotechnik 1+2, Lehrbuch und Aufgabensammlung, Pearson Verlag

Möller, Grundlagen der Elektrotechnik, Springer Verlag

## Final exam

**Details** written exam

**Minimum standard** 4.0

**Exam Type** EN Klausur

## – Lecture / Exercises

### Learning goals

Goal type	Description
Knowledge	Voltage, current, resistance, power, circuits, analysis of circuits, capacitors, inductors, electrical field, magnetical field
Skills	learn the principles of electrical currents and voltages in circuits learn to calculate curenents and voltages learn

### Special requirements

none

### Accompanying material

lecture script, printed and electronic version, Compendium of excercises, printed and in electronic form

### Separate exam

No

### Expenditure classroom teaching

Type	Attendance (h/Wk.)
Lecture	0
Exercises (whole course)	0
Exercises (shared course)	0
Tutorial (voluntary)	0

## – Practical training

### Learning goals

<b>Goal type</b>	<b>Description</b>
Knowledge	Measurement of electric current, voltage, power, resistance Design of electronic circuits consisting of resistors, capacitors and inductors
Skills	Learn the interaction of voltage and current in/on electronic components Learn how to design circuits Learn how to analyse circuits Learn how to use electronic measurement equipment
Skills	Learn how to display, analyse and compare measurement results

### Special requirements

none

<b>Accompanying material</b>	Manuals in printed and electronic form
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<b>Separate exam</b>	No
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### Expenditure classroom teaching

<b>Type</b>	<b>Attendance (h/Wk.)</b>
Practical training	1
Tutorial (voluntary)	1