

Course Manual GE3

Electrical Engineering 3

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– General information

Long name Electrical Engineering 3

Approving CModule [GE3_BaET](#)

Responsible Prof. Dr. Rainer
Kronberger
Professor Fakultät IME

Valid from winter semester
2021/22

Level Bachelor

Semester in the year winter semester

Duration Semester

Hours in self-study 96

ECTS 5

Professors Prof. Dr. Rainer
Kronberger
Professor Fakultät IME

Requirements FO7_GE1, FO7_GE2

Language German

Separate final exam Yes

Literature

Philippow E., Grundlagen der Elektrotechnik, Verlag
Technik Berlin

Moeller, Grundlagen der Elektrotechnii, Teubner

Clausert H., Wiesemann G., Grundgebiete der
Elektrotechnik 1, Oldenbourg

Küpfmüller K., Einführung in die theoretische
Elektrotechnik, Springer

Final exam

Details written exam 120
minutes

Minimum standard 4.0

Exam Type EN Klausur

– Lecture / Exercises

Learning goals

Goal type	Description
Knowledge	Static electric fields Electric field strength Electric flux Electric energy dielectric materials capacitance Static magnetic fields magnetic field strength magnetic flux inductance magnetic energy magnetic materials Transformer electromagnetic fields Field energy Maxwell equations

Skills	To teach the mathematical and physical origin and effects of static and magnetic electric fields. To understand the derivation of inductance and capacitance. Students learn the influences of fields on matter. Furthermore, the students should learn to grasp and understand the complex electrotechnical interrelationships.
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Special requirements

F07_GE1, F07_GE2

Accompanying material	lecture script, printed and electronic version, Compendium of exercises, printed and in electronic form
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Separate exam	No
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Expenditure classroom teaching

Type	Attendance (h/Wk.)
Lecture	2
Exercises (whole course)	1
Exercises (shared course)	0
Tutorial (voluntary)	0