

Course Manual EL

Electronic Circuits

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– General information

Long name Electronic Circuits

Approving CModule [EL_BaET](#), [EL_BaTIN](#)

Responsible Prof. Dr. Jürgen
Schneider
Professor Fakultät IME

Valid from winter semester
2021/22

Level Bachelor

Semester in the year winter semester

Duration Semester

Hours in self-study 60

ECTS 5

Professors Prof. Dr. Jürgen
Schneider
Professor Fakultät IME

Requirements basic skills in calculating
electric circuits, resistor,
capacitor, inductor
good knowledge in
mathematics, linear
equations, calculations
with complex terms

Language German

Separate final exam Yes

Literature

keine

Final exam

Details Written examination,
typical electronic
circuits have to be
analyzed and
dimensioned.

Minimum standard Examination is passed
with 50% of maximum
points. Participants
have to demonstrate
their basic competence
to solve the problems.
Necessary competence:
Abstraction, application
of solving methods to
elementary circuits,
solving of mathematical
equations

Exam Type EN Klausur

– Lecture / Exercises

Learning goals

Goal type	Description
Knowledge	knowing and analysing of linear passive circuits calculation of frequency dependent behaviour grafical representation using the bode plot knowing semiconductor elements (diode, transistor) and operational amplifiers and dimensioning them

Special requirements

Competence in basic electrical theory and mathematic

Accompanying material	hand out (in german) exercises exams
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Separate exam	Yes
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Expenditure classroom teaching

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

Separate exam

Exam Type	EN praxisnahes Szenario bearbeiten (z.B. im Praktikum)
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Details	Students get documents of the practice and have to solve some problems. Results will be reviewed and have to be corrected, if erroneous. Advisors check the practical work including correct circuit assembly and use of measurement equipment. Finally Students have to write a report, which will be reviewed and probably rejected. Only correct reports will be accepted.
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Minimum standard	Correct calculation of introductory problems. Adequate knowledge of practical operation of the experiments. Error free report
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– Practical training

Learning goals

Goal type	Description
Skills	read and understand technical instructions connect circuits and demonstrate the function work on complex task in limited time transfer theoretic knowledge into working circuits discuss the results work with typical measurement equipment explain technical basics and their interdependence

Expenditure classroom teaching

Type	Attendance (h/Wk.)
Practical training	1
Tutorial (voluntary)	0

Special requirements

none

Accompanying material written instructions

Separate exam Yes

Separate exam

Exam Type EN praxisnahes Szenario bearbeiten (z.B. im Praktikum)

Details Problems corresponding with the practice have to be solved. Results will be checked and given back to the student, if erroneous. A final report has to be written, which also will be reviewed. Only reports without errors will pass and succeed the practice.

Minimum standard Clean and good readable reports with traceable calculations. Errors have to be corrected when viewing the reports again.