Technology
Arts Sciences
TH Köln

Course
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
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

Final exam

Details

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

Minimum standard

Excamination 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

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

^ Lecture / Exercises

Learning goals

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

Expenditure classroom teaching

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

Separate exam

Exam Type

working on practical scenarion (e.g. in a lab)

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. Finaly Students have to write a report, which will be reviewed and probably rejected. Only correct reports will be accepted.

Minimum standard

Correct calculation of introductural problems.

Adequate knowledge of practical operation of the experiments.

Error free report

^ Practical training

Learning goals

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

Separate exam

Exam Type

working on practical scenarion (e.g. in a lab)

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 succed the practice.

Minimum standard

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