TH Aschaffenburg
university of applied sciences

Engineering Basics III: Principles of Electrical Engineering

Course number	6317
Hours per week:	6
ECTS:	6
Scheduled:	Winter Term
Format:	lecture + practice
Examination:	Written exam (90 min)
Lecturer:	Prof. Dr.-Ing. Schneider-Störmann; Prof. Dr. Thorsten Döhring
Objectives:	Knowledge: The course provides a general basic knowledge in the field of electrical engineering and shows practical applications. Students get to know the english physical and technical terms of electrical engineering. The calculation methods of linear networks can identify and represent the students. Skills: Students are able to apply the best method of calculation of electrical problems. They are able to analyze electrical problems and to abstract those. Based on this, they will find the necessary method for calculating the problem. In the context of the other lectures in engineering, students have knowledge, which enables them to handle problems interdisciplinary. Competency: Students are able to analyze electrical problems, to simplify and to calculate them. They can interpret signals and characteristics and compare these.
Contents:	Topics are selected chapters from the fields: • AC/DC networks • Materials in Electrical Engineering • Electrostatic fields, capacitors, dielectric materials • Magnetic fields, coils, magnetic materials, magnetic force • AC networks and sinusoidal operations • Filters
Pre-requisites	Engineering Basics I-II, Mathematics I-II
Recommended Reading:	Clausert, H., Wiesemann, G.: Grundgebiete der Elektrotechnik Band I und II, Oldenbourg-Verlag Hagmann, G.: Grundlagen der Elektrotechnik, AULA-Verlag Hagmann, G.: Aufgabensammlung zu den Grundlagen der Elektrotechnik, AULA-Verlag Weißgerber, W.: Elektrotechnik für Ingenieure Band I und II, Vieweg-Verlag Reuter, M., Zacher, S.: Regelungstechnik für Ingenieure, Vieweg + Teubner, 2008 Zacher, S.: Übungsbuch Regelungstechnik, Vieweg -und Teubner-Verlag All literature in most recent edition