Course title	*Circuit Analysis 2*
Course code	*EEIB220*
Module coordinator	*Miriam Heinrich*
Lecturer	*Prof. Dr. Alfons Klönne*
Level of course	*Bachelor*
Recommended prerequisites	
Type of course	*Lecture*
Weekly lecture hours (SWS)	*4*
ECTS credits	*4*
Workload	*in total 120 h, 60 h course attendance, 60 h self-study*
Assessment (grading; pass/fail)	*graded*
Regular cycle	*Summer semester*
Language of instruction	*English*
Contents:	*• Sinusoidal inputs and their representations* *• Instantaneous, Average, and RMS Values* *• Impedance and Series RLC Circuits • Admittance and Parallel RLC Circuits* *• Transfer Function of RLC Circuits* *• Bode diagram* *• Power in AC circuits* *• Resonance* *• Three-Phase circuits*
Learning outcome (competencies):	*Participants will be able to describe and analyze Alternating Current (AC) circuits. After having successfully completed the course, they should* *• be able to describe periodic AC signals* *• can determine arithmetic mean and root mean square values of AC signals* *• understand how to transfer time invariant sinusoidal functions into complex vectors* *• be able to describe AC Circuits under steady state condition* *• know how to analyze AC circuits by complex RLC circuit analysis • be endued with the transfer function of AC circuits* *• understand and apply Bode diagrams* *• know the criteria of resonant circuits* *• understand the principle of Three-Phase circuits* *• be able to calculate the power in AC circuits and Three-Phase circuits in order to develop a deepened understanding of electric systems that are widely used in communication and power system engineering.*
Teaching methods	☒*Lecture* ☐*Group work* ☐*Exercises* ☐*Simulation* ☐*Video feedback* ☐*Others: Please click here for inserting text*
Assessment methods	*Written exam (lecture)*
Recommended reading	*Presentations and Media on Ilias learning platform* *• Jacob, Michael: Advanced AC Circuits and Electronics: Principles and Applications, Herrick & Jacob Series, 2003* *• Rawlins, Clay: Basic AC Circuits, Newnes, 2000*
Additional information	
Recognition of credits	