

Course: Circuit Analysis and Electronics 2

credits: 5

Course code ELVP22AE2
Name Circuit Analysis and Electronics 2
Study year 2022-2023
ECTS credits 5
Language Dutch, with parts in English
Coordinator J. Bout

Modes of delivery Problem-based learning
Assessments Circuit Analysis and Electronics 2 - Written, organised by STAD examinations

Learning outcomes

Defining

The student clearly identifies a problem or customer need, contextualizes it, consults relevant sources, and converts it into a goal, problem statement, and electrical engineering requirements.

Designing

The student considers various solution directions to arrive at a detailed and well-founded electrical engineered product/service/process based on the program of requirements, using appropriate design methodologies and taking into account societal interests and engineering standards.

Realizing

The student realizes and validates a (prototype of) a product/service/process based on a technical design, using the appropriate materials/techniques/instruments.

Content

During this course students will expand their knowledge of analogue electronics with electromagnetism, power and AC networks, including RC, RL and RLC filter design.

Complex numbers, RMS and mean values of sinusoidal waveforms are covered in the context of AC circuit analysis, for which power, energy, and efficiency is also calculated.

Frequency domain analysis is performed using Bode plots for filters and non-ideal op-amps. Students will apply these aspects to build a prototype and to find faults in circuits (simple maintenance).

Practical measurements are made with lab equipment (such as multimeter) to analyze circuits and write a test report.

Included in programme(s)

Electrical Engineering Major Sensor Technology
 Electrical Engineering Major Electronics
 Electrical Engineering Major Mechatronics

School(s)

Institute of Engineering