



**Course number: SET 11220 (lecture)
SET 11221 (lab)**

**Electronics
Study Level: Bachelor /
Undergraduate**

**Prof. Dr. Christopher Knievel
Language of Instruction: English
ECTS Credits: 5**

Subject-specific competencies:

- The students can apply the fundamentals of AC technology and related procedures
- They can analyze tasks related to AC technology
- They are familiar with solving tasks related to AC technology
- They understand the physical principles and function of selected semiconductor components
- They have the knowledge of modeling the behavior of semiconductor components
- They can analyze simple circuits with individual transistors and operational amplifiers

Methodological competencies:

- The students can extract important parameters from the data sheets of components.

Teaching content:

Complex alternating current calculation

- Voltage and current pointers
- Series and parallel circuits
- Low and high-pass filters
- Oscillating circuits
- Locus diagram
- Three-phase systems
- Diodes
- Bipolar Junction Transistors
- Field Effect Transistors
- Transistor Amplifiers
- Transistor as a Switch
- Operational Amplifiers