Announcement

Physical Electronics
apl. Prof. Bernd Koslowski

Content
Lecture
• Fundamentals (block diagram, signal flow diagram, transfer functions, continuous signals, 4-poles and 4-poles theory, modulation theory, background noise)
• Components (semiconductor basics and components, phenomena of electrical contacts, fundamental circuits, alternatives to classical semiconductors)
• Circuit technology (circuit with transistors and amplifier, filters)

Laboratory course
Simulation and design of:
• Fundamentals of Electrical Engineering
• Transistor circuits, analogue circuits, logical circuits
• Fundamental and advanced circuits with operational amplifiers
• Design, experimental setup, and analysis of electronic circuits
• Optional: sensors, detectors, basic devices, micro-controllers, FPGAs

Recommended Prerequisites
Electrodynamics, Thermodynamics, Atomic Physics, Solid State Physics

Literature

Additional Information
Lecture: 3 hours per week
Laboratory: 5 experiments, 4 hours per week
6 ECTS credits