Description:
The course is about organization and logic design of digital systems. Course presents a structured design philosophy, emphasizing hardware building blocks, circuit synthesis, and hardware description language. In the laboratory students build, study, and debug a working processor from elementary hardware components as well as work with popular ARM processors to build embedded systems. As a **hands-on lab-oriented course**, topics covered in lectures will be explored through challenging laboratory exercises/projects, where Raspberry Pi and De0-Nano-SoC will be used as the platforms.

**LEARNING OBJECTIVES:**
- Introduction and Fundamentals
- Combinational Logic Design
- Sequential Logic Design
- Hardware Description Languages
- Digital Building Blocks
- ARM Architecture
- Microarchitecture
- Memory Systems
- I/O Systems

If you are self-motivated, hard-working, and want to build your own CPU, smart devices, gadgets, or robots, this is the course for you!