Hochschule Konstanz
University of Applied Sciences

Course number: EIB 31430
Microprocessor Systems
Study Level: Bachelor / Undergraduate

Dr. Boris Böck
Language of Instruction: English
ECTS Credits: 5

Objectives:

After having completed this course the students:

- Know the basic construction of typical microcontrollers
- Understand the structure and the functions of a microcontroller
- Know the functions of peripheral components
- Are proficient in programming a microcontroller in C
- Know the specifics of hardware-related microcontroller programming
- Are able to use interrupts to deal with exceptional conditions
- Are able to connect external sensors and actuators to a microcontroller

Contents:

This course combines lectures, tutorials, laboratory and project work in the field of microprocessor systems. The major topics covered include:

- Microcontroller: Architecture, CPU, register, memory, communication interfaces, ADC, timer
- Microcontroller programming in Assembler and C
- Development environment and toolchain: installation, compiler, debugger
- Introduction to microcontroller evaluation board
- Software and hardware exercises using integrated Design Environment and evaluation board XC886

Assessment:

Assessment of this course is based on a presentation, a lab report and a final written examination.