Module title: Networks

Module summary
Module code: SSTM230
Module coordinator: Prof. Dr. Thorsten Leize
Credits (ECTS): 6
Semester: 2
Pre-requisites with regard to content: Computer Science
Pre-requisites according to the examination regulations: ---
learning outcomes and competencies: Students will be able to understand different bus systems and choose an appropriate bus system. Furthermore they know how to design and configure applications of bus systems in sensor systems. Students know the design and working principals of data exchange in internet and about the display and presentation of sensor data. They can organise, structure and store the data in different formats. They know how to program web applications (especially the backend)
Assessment: Written exam (60 min) or portfolio (1 Semester), which one will be announced at start of lectures. + lab work (passed/not passed, 1 semester)

Course: Bus Systems
Module code: SSTM231
Lecturer: Prof. Dr. Thorsten Leize
Contact hours: 2 SWS
Semester of delivery: yearly, each winter
Type/mode: lecture
Language of instruction: English
Content: • Signal propagation, signal formatting, error detection • Bus access types • ISO/OSI layer model and devices • Different bus systems for different application areas: • Ethernet and TCP/IP family • Field bus systems (serial, HART, Profibus) • Automotive bus systems, especially CAN • I^2C as an example of short range bus systems.
Recommended reading: All information is on Ilias and updated frequently
Comments: Strongest focus on Ethernet and TCP/IP family Most of total contact time in first half of the semester is on SSTM231, of second half most is SSTM232.

Course: Communication and Visualisation
Module code: SSTM232
Lecturer: Prof. Dr. Thorsten Leize
Contact hours: 2 SWS

Semester of delivery: yearly, every winter
Type/mode: Lab with portfolio
Language of instruction: English
Content: • HTTP transport • HTML description language • Graphics • Perl scripts on the server for dynamic web pages • Other languages for the backend on students' choice • Storage of data in text files, json, xml • Relational databases
Recommended reading: All inromation is on Ilias and updated frequently.
Comments: Assignments in Ilias. Most of total contact time in first half of the semester is on SSTM231, of second half most is SSTM232.