COURSE DETAIL

COMPUTER SYSTEMS ARCHITECTURE
Country Germany
Host Institution Technical University Berlin
Program(s) Technical University Berlin
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Computer Science
UCEAP Course Number 115
UCEAP Course Suffix
UCEAP Official Title COMPUTER SYSTEMS ARCHITECTURE
UCEAP Transcript Title COMP SYSTEMS ARCH
UCEAP Quarter Units 5.50
UCEAP Semester Units 3.70

Course Description

The following topics are covered in this course: computer arithmetic, number formats (place value systems, fixed- and floating-point numbers); basics of digital design ((combinatorial logic, gates, truth tables, storage elements, finite state machines); basic technologies and components of a (secure) computer architecture; assembly programming (MIPS): assembly language, control flow, addressing; structure and operation of a multi-cycle data path (MIPS), structure and operation of a multi-cycle implementation; measuring and evaluating performance (SPEC benchmarks, Amdahl's law); structure and operation of a simple Von Neumann model; introduction to pipelining: concepts, hazards, forwarding, solutions; memory hierarchy, caches, virtual memory; input/output techniques (addressing, synchronization, direct memory access).

Language(s) of Instruction
German

Host Institution Course Number
0401 L 410

Host Institution Course Title
RECHNERORGANISATION

Host Institution Course Details
https://moseskonto.tu-berlin.de/moses/modultransfersystem/bolognamodule/beschre...

Host Institution Campus
FAKULTÄT IV ELEKTROTECHNIK UND INFORMATIK

Host Institution Faculty

Host Institution Degree

Host Institution Department
Institut für Technische Informatik und Mikroelektronik

Course Last Reviewed
2023-2024

Print