COURSE DETAIL

COMPUTER ARCHITECTURE
Country Sweden
Host Institution Lund University
Program(s) Lund University
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Electrical Engineering Computer Science
UCEAP Course Number 124
UCEAP Course Suffix
UCEAP Official Title COMPUTER ARCHITECTURE
UCEAP Transcript Title COMPUTER ARCHITECTR
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description

The goal of this course is to introduce the operation of computer systems at the level of Instruction Set Architectures (ISA). It provides a basic understanding of the design principles that govern modern computer architectures and their components. Special attention is paid to (super scalar) pipelining and memory hierarchy techniques including caches. Implementation and efficiency issues are exemplified. Metrical performance analysis methods are discussed to evaluate architectural alternatives. The course introduces the foundations of low-level computer functioning. The main topics include computer systems, low-level programming techniques, the techniques of RISC processors and pipelining, cache memory, and virtual memory. The course also illuminates the alternative design principles of modern computer architectures in order to provide an understanding of their impact on performance. Quantitative methods to evaluate design principles for performance constitute an important subject of the course.

Language(s) of Instruction
English

Host Institution Course Number
EITF20

Host Institution Course Title
COMPUTER ARCHITECTURE

Host Institution Campus

Host Institution Faculty
Engineering

Host Institution Degree

Host Institution Department
Engineering- Electrical and Information Technology

Print