

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 Course Details

<https://www.eit.lth.se/course/eitf20>

Host Institution Campus

Host Institution Faculty

Engineering

Host Institution Degree

Host Institution Department

Engineering- Electrical and Information Technology

Course Last Reviewed

2022-2023

[Print](#)