

COURSE DETAIL

HARDWARE

Country

United Kingdom - England

Host Institution

Imperial College London

Program(s)

Imperial College London

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Computer Science

UCEAP Course Number

113

UCEAP Course Suffix**UCEAP Official Title**

HARDWARE

UCEAP Transcript Title

HARDWARE

UCEAP Quarter Units

5.00

UCEAP Semester Units

3.30

Course Description

This course explores the fundamental principles and devices used in the design of digital computers, including how primitive control logic can be organized to construct a programmable machine. The course covers Boolean algebra, combinatorial logic functions, principles of semiconductor devices and logic gates, adders subtractors and multipliers, bistable storage devices, S-R flip-flop, D-type flip-flop, latch versus edge triggering, J-K flip-flops, registers, shift registers, multiplexers and decoders, counters, finite state machine design, static and dynamic RAM, register transfer descriptions, ALU design and CPU design. Practical laboratory work consists of the design of combinatorial and sequential circuits using modern VLSI design tools.

Language(s) of Instruction

English

Host Institution Course Number

C112

Host Institution Course Title

HARDWARE

Host Institution Course Details

Host Institution Campus

Imperial College London

Host Institution Faculty

Host Institution Degree

Host Institution Department

Computing

Course Last Reviewed

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