

COURSE DETAIL

MULTICORE PROGRAMMING FUNDAMENTALS

Country

Korea, South

Host Institution

Yonsei University

Program(s)

Yonsei University

UCEAP Course Level

Graduate

UCEAP Subject Area(s)

Computer Science

UCEAP Course Number

206

UCEAP Course Suffix**UCEAP Official Title**

MULTICORE PROGRAMMING FUNDAMENTALS

UCEAP Transcript Title

MULTICORE PROGRAM

UCEAP Quarter Units

4.50

UCEAP Semester Units

3.00

Course Description

This course looks at the challenges and techniques involved in programming multicore systems. The course starts out with a brief history of computing to motivate the shift to multicore architectures. Parallelism, execution indeterminism, thread-and-lock-based programming, non-blocking synchronization, and HW acceleration with GPGPUs are introduced in a step-by-step approach that is accompanied by individual programming assignments. The impact of hardware architectures on programmability and performance is highlighted. Emerging trends such as Stream-parallel programming and hardware transactional memory are introduced.

Language(s) of Instruction

English

Host Institution Course Number

CSI6505

Host Institution Course Title

MULTICORE PROGRAMMING FUNDAMENTALS

Host Institution Course Details

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Computer Science

Course Last Reviewed

2023-2024

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