

# 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 Campus

### Host Institution Faculty

### Host Institution Degree

### Host Institution Department

Computer Science

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