

COURSE DETAIL

THE THEORY AND PRACTICE OF CONCURRENT PROGRAMMING

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

147

UCEAP Course Suffix**UCEAP Official Title**

THE THEORY AND PRACTICE OF CONCURRENT PROGRAMMING

UCEAP Transcript Title

CONCURRENT PROGRMNG

UCEAP Quarter Units

5.00

UCEAP Semester Units

3.30

Course Description

This course focuses on the theory and practice of concurrent programming, in order to familiarize students with a range of modern concurrent programming models, and with the challenges of correct concurrent programming. It is divided into two parts: a largely practical part that gives an overview of shared memory concurrency in modern programming languages, and a more theoretical part that treats shared memory concurrency from the ground up, covering low-level topics such as hardware memory models, primitives for shared-memory concurrency, building up towards higher-level synchronization techniques such as locks, mutexes and transactional memory. Throughout the course, a main objective is to reinforce correct concurrent programming through the use of tools, formal specification and verification techniques.

Language(s) of Instruction

English

Host Institution Course Number

COMP60007

Host Institution Course Title

THE THEORY AND PRACTICE OF CONCURRENT PROGRAMMING

Host Institution Course Details

<https://www.imperial.ac.uk/computing/current-students/courses/60007/>

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Computing

Course Last Reviewed

2025-2026

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