

COURSE DETAIL

GRAPHS AND ALGORITHMS

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

145

UCEAP Course Suffix**UCEAP Official Title**

GRAPHS AND ALGORITHMS

UCEAP Transcript Title

GRAPHS ALGORITHMS

UCEAP Quarter Units

5.00

UCEAP Semester Units

3.30

Course Description

In this class, students will work to prove mathematical properties of graphs. We will explore classical algorithms associated with graphs and trees and design algorithms for sorting and searching. Students will apply various methods for determining the time complexity of algorithm and study the complexity classes P and NP and the concept of NP-completeness. Students will also work to prove basic properties of graphs. We will describe, and establish the correctness of, some of the fundamental algorithms in computing and analyze the time complexity of an algorithm. Students will be able to explain the complexity classes P and NP and the P=NP problem and determine to which complexity class a computational problem belongs.

Language(s) of Instruction

English

Host Institution Course Number

CO150

Host Institution Course Title

GRAPHS AND ALGORITHMS

Host Institution Course Details

Host Institution Campus

Imperial College

Host Institution Faculty

Host Institution Degree

Host Institution Department

Department of Computing

Course Last Reviewed

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