

# 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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