

CITY UNIVERSITY OF HONG KONG

Information on Courses

1. **Course Title:**

Software Testing and Maintenance

2. **Course Code:**

CS3346

3. **Course Aims & Objectives:**

This course aims to familiarize students with the theories, principles and practices of software testing and maintenance. Students will be exposed to a variety of formal approaches and practical techniques and tools for testing different types of software systems, including client-server and Web-based systems.

Upon completion, students should be able to:

1. understand the role of testing within a software development methodology;
2. understand the major difficulties and issues involved in the testing and maintenance of software;
3. develop appropriate strategies for testing software in structured and organized ways;
4. apply various techniques for defect detection, and continuous maintenance of software.

4. **Units:** 3

5. **Level:** B3

6. **Medium of Instruction:** English

7. **Keyword Syllabus:**

Nature of software testing. The testing process: Unit testing, Integration testing, System testing. Test case selection. Specification-based testing. Category-partition testing. Statistical testing. Operational profiles. Code-based testing. Control flow criteria. Data flow testing. Code coverage. Software maintenance. Regression testing. Test suite reduction.

8. **Teaching pattern:**

Duration of course: 1 semester

Suggested lecture/tutorial/laboratory mix: 2 hrs. lecture; 1 hr. tutorial.

9. **Assessment pattern:**

Examination duration: 2 hours

Percentage of coursework, examination, etc.: 40% CW; 60% Exam

Grading pattern: Standard (A+AA-...F)

For a student to pass the course, at least 30% of the maximum mark for the examination must be obtained.

10. Pre-requisites:

CS2301 Problem Solving and Programming or
CS2331 Problem Solving and Programming or equivalent

11. Pre-cursor:

Nil

12. Equivalent Courses: