

City University of Hong Kong
Course Syllabus

offered by Department of Computer Science
with effect from Semester A 2022/23

Part I Course Overview

Course Title: Internet Application Development

Course Code: CS5281

Course Duration: One semester

Credit Units: 3 credits

Level: P5

Medium of Instruction: English

Medium of Assessment: English

Prerequisites:
(Course Code and Title) Nil

Precursors:
(Course Code and Title) Nil

Equivalent Courses:
(Course Code and Title) Nil

Exclusive Courses:
(Course Code and Title) Nil

Part II Course Details

1. Abstract

This course provides an overview of the platforms, technologies and architectures used in modern Web-based application development. The objective of this course is to ensure that all students have a good balance of practical hands-on development experience as well as systems-level concepts to ensure that they can make intelligent analysis and critique of platforms and technologies for future development work.

2. Course Intended Learning Outcomes (CILOs)

(CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)

| No. | CILOs | Weighting (if applicable) | Discovery-enriched curriculum related learning outcomes (please tick where appropriate) | | |
|-----|---|------------------------------|---|----|----|
| | | | A1 | A2 | A3 |
| 1. | Compare, analyze and explain different Web architectures. | | √ | | |
| 2. | Explain what are Web standards and their roles and importance in Web development. | | √ | | |
| 3. | Create practical website design with consideration of user requirement. | | | √ | √ |
| 4. | Propose enhancements over static webpages with client-side script/tools. | | | √ | √ |
| 5. | Propose designs of server-side programs which interact with client-side elements. | | | √ | √ |
| 6. | Explain current trends in Web technologies and development. | | √ | | |
| | | 100% | | | |

A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to self-life problems.

A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

3. Teaching and Learning Activities (TLAs)

(TLAs designed to facilitate students' achievement of the CILOs.)

| TLA | Brief Description | CILO No. | | | | | | Hours/week (if applicable) |
|--------------------|---|----------|----|----|----|----|----|-------------------------------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | |
| Lecture / Tutorial | Explain key concepts, such as client - server architecture, web standards and markup languages. | √* | √* | √* | √* | √* | √* | 3hrs/wk |
| Group Project | Require students to design and implement fully functional internet based system for real-life application like hotel booking or online bidding. | √* | √* | √ | √ | √ | √* | on average 3~5hrs/wk |

* indirectly

4. Assessment Tasks/Activities (ATs)

(ATs are designed to assess how well the students achieve the CILOs.)

| Assessment Tasks/Activities | CILO No. | | | | | | Weighting | Remarks |
|---|----------|---|---|---|---|---|-----------|---------|
| | 1 | 2 | 3 | 4 | 5 | 6 | | |
| Continuous Assessment: <u>50%</u> | | | | | | | | |
| Midterm Quiz | √ | √ | √ | √ | | √ | 15% | |
| Group Project | √ | √ | √ | √ | √ | √ | 35% | |
| Examination [^] : <u>50%</u> (duration: 2 hours) | | | | | | | | |
| | | | | | | | 100% | |

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

5. Assessment Rubrics

(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)

Applicable to students admitted in Semester A 2022/23 and thereafter

| Assessment Task | Criterion | Excellent (A+, A, A-) | Good (B+, B) | Marginal (B-, C+, C) | Failure (F) |
|------------------|--|--------------------------|-----------------|-------------------------|-----------------------------------|
| 1. Midterm Quiz | 1.1 ABILITY to EXPLAIN and compare different Internet technologies with focus placed on client side development. | High | Significant | Moderate to Basic | Not even reaching marginal levels |
| 2. Group Project | 2.1 ABILITY to DESIGN and implement web-based Internet application. | High | Significant | Moderate to Basic | Not even reaching marginal levels |
| 3. Examination | 3.1 ABILITY to EXPLAIN and compare different Internet technologies for both client side and server side. | High | Significant | Moderate to Basic | Not even reaching marginal levels |

Applicable to students admitted before Semester A 2022/23

| Assessment Task | Criterion | Excellent (A+, A, A-) | Good (B+, B, B-) | Fair (C+, C, C-) | Marginal (D) | Failure (F) |
|------------------|--|--------------------------|---------------------|---------------------|-----------------|-----------------------------------|
| 1. Midterm Quiz | 1.1 ABILITY to EXPLAIN and compare different Internet technologies with focus placed on client side development. | High | Significant | Moderate | Basic | Not even reaching marginal levels |
| 2. Group Project | 2.1 ABILITY to DESIGN and implement web-based Internet application. | High | Significant | Moderate | Basic | Not even reaching marginal levels |
| 3. Examination | 3.1 ABILITY to EXPLAIN and compare different Internet technologies for both client side and server side. | High | Significant | Moderate | Basic | Not even reaching marginal levels |

Part III Other Information (more details can be provided separately in the teaching plan)

1. Keyword Syllabus

(An indication of the key topics of the course.)

History of Internet and the Web, overview of Web-based architectures and platforms, client-server model, browser and web server structures, Web standards and protocols (HTTP, XML, HTML, CSS), client-side programming (JavaScript), server-side programming (e.g. PHP / Java platform, AJAX, Web services), Framework for PC/Mobile platform (e.g. JQuery), Web 2.0 (concept and technologies).

2. Reading List

2.1 Compulsory Readings

(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)

| | |
|--|--|
| | None – Freely available online material will be used |
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2.2 Additional Readings

(Additional references for students to learn to expand their knowledge about the subject.)