

The Hong Kong University of Science and Technology

UG Course Syllabus

Internet Computing

COMP 4021

3 Credits

Prerequisite(s): COMP 2012 OR COMP 2012H

Name: David ROSSITER

Email: rossiter@cse.ust.hk

Course Description

Technologies and standards for World Wide Web (WWW), user interfaces and Browsers, authoring tools, Internet protocols, Internet servers, database connectivity, Robots, Search engines, server-side programming, client-side programming, security and privacy, recent advances.

List of Topics

- Client-side Development
 - HTML and CSS
 - JavaScript Programming
 - DOM Handling
 - Images in Browsers
 - SVG and Animations
 - Responsive Web Design
 - Using HTML Canvas

- Server-side Development
 - The HTTP Process
 - Node.js Programming
 - PHP Programming
 - XML and JSON
 - AJAX Communication
 - Using WebSocket
 - Cookies and Sessions
 - RESTful APIs

Intended Learning Outcomes (ILOs)

At the completion of this course students will be able to:

1. Appreciate the impact of Internet on society
2. Assess HTML and related display techniques including CSS
3. Build browser-based programs using the JavaScript language, including DHTML and event handling
4. Program advanced browser display technologies including SVG, and differentiate between the technologies
5. Develop code for handling communication between web page components such as JavaScript
6. Install and describe the operation of a server such as Apache and develop server side code in an appropriate language such as PHP
7. Identify the most common HTTP instructions and their methods of client-server interaction, including cookies
8. Identify XML and related technologies including DOM handling.
9. Develop complex programs for browser-server communications, including use of Ajax.

Assessments:

Assessment Task	Contribution to Overall Course grade (%)
Labs x 3	30%
Mini Project	30%
Final examination	40%

Required Texts and Materials

N/A

Additional Resources

N/A