

City University of Hong Kong

**Information on a Course
offered by Department of Electronic Engineering
with effect from Semester B 2012/13**

Part I

Course Title: Advanced Internet Technologies

Course Code: EE5413

Course Duration: One Semester (13 weeks)

No. of credits: 3

Level: P5

Medium of Instruction: English

Prerequisites (Course Nil

Code and Title):

Precursors: EE5412 Telecommunication Networks

Equivalent Course: Nil

Exclusive Courses: Nil

Part II

Course Aims:

This course aims to initiate students to explore the advanced technologies which are implemented, developed or under research in the rapid changing area of the Internet.

Course Intended Learning Outcomes (CILOs)

Upon successful completion of this course, students should be able to:

No.	CILOs
1.	Describe the general concepts and characteristics of the Internet application layer protocols and standards
2.	Apply programming skills for creating interactive web pages
3.	Recognize the latest network security techniques in the Internet
4.	Recognize the latest technologies for Internet multimedia application in practice

Teaching and Learning Activities (TLAs)

(Indicative of likely activities and tasks designed to facilitate students' achievement of the CILOs. Final details will be provided to students in their first week of attendance in this course)

CILO 1	Lecture, tutorial, case study, essay writing
CILO 2	Lecture, tutorial, case study, project
CILO 3, 4	Lecture, tutorial

Timetabling Information

Pattern	Hours
Lecture:	26
Tutorials:	13*
Laboratory:	
Other activities:	

* may be substituted with lectures/laboratories

Assessment Tasks/Activities

(Indicative of likely activities and tasks designed to assess how well the students achieve the CILOs. Final details will be provided to students in their first week of attendance in this course)

	Type of assessment tasks	Weighting (if applicable)
Continuous Assessment	Mini-Project, Quizzes, Essay writing	30%
Examination	Written exam	70% 2 hours

Remarks: To pass the course, students are required to achieve at least 35% in course work and 35% in the examination.

Grading of Student Achievement:

Letter Grade	Grade Point	Grade Definitions
A+	4.3	Excellent
A	4.0	
A-	3.7	
B+	3.3	Good
B	3.0	
B-	2.7	
C+	2.3	Adequate
C	2.0	
C-	1.7	
D	1.0	Marginal
F	0.0	Failure

Constructive Alignment with Programme Outcomes

PILO	How the course contribute to the specific PILO(s)
1, 2, 3, 4	This course aims to provide students with ample opportunities in acquiring knowledge of the advanced Internet technologies. Upon completion of this course, students will gain an adequate background for being Internet developers or administrators.
3, 4	Students are required to complete an assignment designed to gain practical programming skills in implementing interactive web pages, and knowledge of the Internet application layer protocols and standards.

Part III**Keyword Syllabus:**Internet Application Layer Protocols and Standards

Architecture and Protocol, Internet Request for Comment (RFC), Domain Name System, DNS Name Space, Gateway-To-Gateway Protocol (GGP), Address Resolution Protocol (ARP), Information Locating : HTTP/1.1, Hypertext Markup Language (HTML), VOIP.

Interactive Web Page Design

CGI-BIN Scripting and Interfacing, Perl Programming, PHP Server-side HTML Embedded Scripting Language, JavaScript Client-side Scripting Language.

Network Security

Internet Security Threats, Hacker, Network Viruses, Public and Private Keys, Data Encryption Standard, RSA, Digital Signature, SHA, MD, X.509 Certificate, Firewalls.

Internet Multimedia Technologies

Multimedia : Definitions, Requirements, Standardized data Formats for Multimedia, Multimedia Compression, Multimedia Data Transfer using Proprietary Protocols.

Recommended Reading:

Subrata Goswami, Internet Protocols: Advances, Technologies and Applications, Springer, 2003.

S. Dunaev, Advanced Internet Programming: Technologies & Applications, Charles River Media, 2001.

Uyless Black, Advanced Internet Technologies, Prentice Hall, 1999.

IEEE Internet Computing Magazine, IEEE Computer Society.

Online Resources (if any)

Nil