City University of Hong Kong
Course Syllabus

offered by Department of Computer Science
with effect from Semester A 2018/19

Part I Course Overview

Course Title:	Internet Applications and Security
Course Code:	GE2338
Course Duration:	1 Semester
Credit Units:	3 credits
Level:	A2, B2
Proposed Area: *(for GE courses only)*	☐ Arts and Humanities ☐ Study of Societies, Social and Business Organisations ☒ Science and Technology
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

(A 150-word description about the course)

Today, surfing and doing transactions on the World Wide Web (WWW) permeate most business and individual undertakings. An enormous amount of human interactions and data exchange are done directly over the Internet. This course aims to provide introduction level knowledge about the Internet, as well as various applications and services running on it, such as e-commerce, e-banking, social networks, location-based services. The wide spectrum materials to be covered include: service models of social network; major underlying technologies and driving forces that support it, including both the technological and business perspectives; obstacles that might inhibit the growth (e.g., security and privacy issues). The legal, ethical and societal aspects of network security and privacy will also be discussed. Key topics includes introduction to the Internet, e-commerce, social networking, internet security, data security, peer-to-peer/sharing economy, location-based services, and digital marketing. Learning activities include lectures, group projects, case studies, hands-on assignment, and tutorial sessions.

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.	Identify essential information security, privacy and service requirements and issues through observation of the operations of computer and internet/WWW applications and services (e.g., e-commerce, e-banking, social networks, location-based services and digital marketing) and discovering the practice and standards.		✓	✓	
2.	Understand the fundamentals of those various computing and networking technologies supporting internet / WWW applications and services, and relate those technologies to different application spectrum.			✓	
3.	Discover the obstacles that remain to be addressed for the growth of internet/WWW applications and services (such as security and privacy threats) and their impacts, including legal, ethical and societal aspects.		✓	✓	
4.	Apply the general technology principle in internet/WWW applications and services and information security and privacy.		✓	✓	✓
5.	Develop an attitude to evaluate internet/WWW applications and security and privacy issues in computer systems and propose solutions for them through independent investigation.		✓	✓	✓
** If weighting is assigned to CILOs, they should add up to 100%.*		100%			

[#] Please specify the alignment of CILOs to the Gateway Education Programme Intended Learning outcomes (PILOs) in Section A of Annex.

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.)

Teaching pattern:

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

TLA	Brief Description	CILO No.					Hours/week (if applicable)
		1	2	3	4	5	
Lecture	Explain key issues and solutions about internet/WWW applications and services, and information security and privacy.	✓	✓	✓	✓*	✓*	
Tutorial	Require students to conduct hands-on exercises about internet/WWW applications and services, and information security and privacy.	✓	✓	✓	✓	✓*	
Problem Set	Require student to answer one problem set that consists of questions related to some modern internet/WWW applications and services, and information security and privacy that are commonly used and related in students' daily life, respectively.	✓	✓	✓	✓*	✓*	
Quiz	Require students to complete one in-class quiz that includes questions about the teaching materials and tests their understanding and knowledge about the subject.	✓	✓	✓	✓*	✓*	
Group project	Require students to work as a team on a timely issue related to internet/WWW applications and services, or information security and privacy, and they have to identify issue, prove the existence of the issue, find out a solution, and evaluate the solution.	✓*	✓*	✓*	✓	✓	

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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		
Continuous Assessment: 60%							
Problem set	✓	✓	✓	✓		10%	
Quiz	✓	✓	✓	✓		10%	
Group Projects				✓	✓	40%	
Examination^: 40% (duration: 2 hours)							
** The weightings should add up to 100%.*						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.)

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
1. Problem set	CAPACITY for DIRECTED LEARNING to understand the key concepts of internet/WWW applications and services, and information security and privacy.	High	Significant	Moderate	Basic	Not even reaching marginal levels
2. Quiz	CAPACITY for DIRECTED LEARNING to understand the key concepts of internet/WWW applications and services, and information security and privacy.	High	Significant	Moderate	Basic	Not even reaching marginal levels
3. Group project and presentation	ABILITY to IDENTIFY an existing real-world issue or a new challenge related to internet/WWW applications and services, and information security and privacy, DESIGN a solution, EVALUATE the effectiveness of the solution, and EXPLAIN in DETAIL about the project	High	Significant	Moderate	Basic	Not even reaching marginal levels
4 Examination	ABILITY to APPLY and EXPLAIN knowledge and understanding of internet/WWW applications and services, and information security and privacy.	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.)

- Introduction to the Internet
- E-commerce
- Social Networking
- Internet Security
- Data Security
- Peer-to-Peer / Sharing Economy
- Location-Based Services
- Digital Marketing

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.)

Nil

2.2 Additional Readings

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

1.	Sara Baase (2017), "A Gift of Fire: Social, Legal, and Ethical Issues for Computing and the Internet", Prentice Hall, 5th edition.
2.	Stephen P Borgatti (2013), Martin G Everett and Jeffrey C Johnson, "Analyzing Social Networks", SAGE Publications Ltd.
3.	David Easley and Jon Kleinberg (2010), "Networks, Crowds, and Markets - Reasoning About a Highly Connected World", Cambridge Press.
4.	Lisa Guerin J. D. (2009), "Smart policies for workplace technology: email, blogs, cell phones & more", NOLO.

Annex
(for GE courses only)

A. Please specify the Gateway Education Programme Intended Learning Outcomes (PILOs) that the course is aligned to and relate them to the CILOs stated in Part II, Section 2 of this form:

GE PILO	**Please indicate which CILO(s) is/are related to this PILO, if any** ***(can be more than one CILOs in each PILO)***
PILO 1: Demonstrate the capacity for self-directed learning	CILOs 1, 2, and 3
PILO 2: Explain the basic methodologies and techniques of inquiry of the arts and humanities, social sciences, business, and science and technology	CILOs 1, 2, 3, 4, and 5
PILO 3: Demonstrate critical thinking skills	CILOs 2 and 5
PILO 4: Interpret information and numerical data	CILOs 2 and 3
PILO 5: Produce structured, well-organised and fluent text	CILOs 1, 2, 3, 4, and 5
PILO 6: Demonstrate effective oral communication skills	CILOs 1, 2, 3, and 5
PILO 7: Demonstrate an ability to work effectively in a team	CILO 5
PILO 8: Recognise important characteristics of their own culture(s) and at least one other culture, and their impact on global issues	
PILO 9: Value ethical and socially responsible actions	CILO 2
PILO 10: Demonstrate the attitude and/or ability to accomplish discovery and/or innovation	CILO 5

GE course leaders should cover the mandatory PILOs for the GE area (Area 1: Arts and Humanities; Area 2: Study of Societies, Social and Business Organisations; Area 3: Science and Technology) for which they have classified their course; for quality assurance purposes, they are advised to carefully consider if it is beneficial to claim any coverage of additional PILOs. General advice would be to restrict PILOs to only the essential ones. (Please refer to the curricular mapping of GE programme: http://www.cityu.edu.hk/edge/ge/faculty/curricular_mapping.htm.)

B. Please select an assessment task for collecting evidence of student achievement for quality assurance purposes. Please retain at least one sample of student achievement across a period of three years.

Selected Assessment Task
Nil.