City University of Hong Kong
Course Syllabus

offered by Department of Computer Science
with effect from Semester B 2017/18

Part I Course Overview

Course Title:	Global IT Case Studies
Course Code:	GE2313
Course Duration:	1 Semester
Credit Units:	3 credits
Level:	A2, B2
Proposed Area: *(for GE courses only)*	☐ Arts and Humanities ☒ 2 Study of Societies, Social and Business Organisations ☒ 1 Science and Technology
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites: *(Course Code and Title)*	None
Precursors: *(Course Code and Title)*	None
Equivalent Courses: *(Course Code and Title)*	None
Exclusive Courses: *(Course Code and Title)*	None

Part II Course Details

1. Abstract

(A 150-word description about the course)

This course helps technical and non-technical students to be creative innovators in the use of technology to solve real-world problems. This course focuses on smart city, its related technologies, and its benefits to citizens. Through case studies, students gain a better insight on different computing technologies and how they can be used to address social needs. The course will broaden students' understanding of current state-of-the-art in computing and future trends, as well as various needs of society that can be addressed through innovative use of technology. Subject areas to be covered may include smart energy, environment, waste, government, community, transportation, building/homes, public health, safety, etc. This course will be useful for students from any discipline and will give insights to the value of technology across industries from a global point of view as well as issues related to their ethical use.

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.	Explain examples of how IT benefits everyday life through innovative solutions.	35%	✓		
2.	Explore and analyze the use and impact of IT in different industries around the world.	35%		✓	
3.	Explain current trends in IT usage for business and industry.	30%			✓
** 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: 3 hrs. lecture/tutorial

TLA	Brief Description	CILO No.			Hours/week (if applicable)
		1	2	3	
Lecture & In-Class Discussion	Case studies of smart city applications and how they change the way we work and play will be covered in lectures. A selection of key industries will be made and crucial information systems will be highlighted as case studies so that students understand the rationale behind the development of these business and industry systems and the benefits they bring, as well as impact to society. Current trends will be explored. Students will further strengthen what they learned in class with in-class discussions. Students are expected to share what they learned with others during in-class presentations and participations.	✓	✓	✓	3 hrs/wk
Reading Report	Reference materials are assigned to students to read. They report the technical summary and findings including impact of technology to industry and society. To encourage critical thinking, students should also write their opinion and express their new perspectives from the study.	✓	✓	✓	
Team Project	Students will be grouped in teams to work on an independent case study on a type of computer application and industry of their choice and critically compare and analyse the impact the information system/technology has on the industry and possibly global economy. They should also propose enhanced usage of IT in the industry or suggest novice applications of the technology. A report should be generated by each team to document their research, critical comparison and analysis, and their new ideas. The weekly progress of their project work should be logged and may be selected to be presented in the class. Each team will be required to give a formal presentation at the end of the semester.	✓	✓	✓	

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		
Continuous Assessment: 60%					
Weekly quiz	✓	✓	✓	10%	
Reading Report	✓	✓	✓	10%	
Team Project	✓	✓	✓	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. Weekly quiz	1.1 ABILITY to articulate answer in a very clear and precise manner, demonstrating a firm knowledge of the subject. 1.2 DEMONSTRATE ability for critical thinking and analysis 1.3 PROVIDE rich and strong evidence and arguments to support and justify answer. 1.4 SHOW good command of English.	High	Significant	Moderate	Basic	Not even reaching marginal levels
2. Reading Report	2.1 ABILITY to provide precise summary of the assigned readings and show comprehensive understanding of the study. 2.2 ABILITY to make real connections between the study and own experience and learning. EXPLAIN the impact of the subject (people/technology/..) with evidences. 2.3 CAPACITY to demonstrate new perspectives and insights from the study. 2.4 ABILITY to report in a well-organised way with logical flow of thoughts. Correct use of English, free of errors in grammar, punctuation and spelling. Layout and use of graphics facilitate communication. All references (including images) are accurately acknowledged.	High	Significant	Moderate	Basic	Not even reaching marginal levels

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
3. Team Project	3.1 ABILITY to provide thorough summary of current development with good highlights of significant people / technology / incidents / events. Variety of example cases is included to exemplify the current development with critical comparison and analysis. 3.2 ABILITY to describe in-depth possible industrial / societal needs and the social impact of the technology. Provide relevant statistics and figures to substantiate the impact. 3.3 ABILITY to make real connections between the study and own experience and learning and CAPACITY to demonstrate new perspectives and insights from the study. Every idea is logically supported by relevant facts, and includes judgment of the reliability of data. 3.4 ABILITY to report in an organised way and use of sections is logical and allows easy navigation through the document. All graphical documents, sketches and maps are creative, professional and strongly support the text. All sources correctly and thoroughly documented. All ideas borrowed are duly acknowledged in the text. Appropriate citation forms are utilized throughout. Reference section complete, comprehensive and follows standard format. 3.5 ABILITY to present in a clear, logical, interesting sequence which audience can follow. Use of creative and effective visual aids that easily hold audience's attention. Delivery should be clear, concise, correct and complete.	High	Significant	Moderate	Basic	Not even reaching marginal levels

4. Examination	4.1 ABILITY to articulate answer in a very clear and precise manner, demonstrating a firm knowledge of the subject. 4.2 DEMONSTRATE ability for critical thinking and analysis 4.3 PROVIDE rich and strong evidence and arguments to support and justify answer. 4.4 SHOW good command of English.	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.)

Smart city technologies: internet-of-things (IoT), big data/data mining, open data, cloud, mobile apps, e-government, artificial intelligence, etc.; Smart city applications: smart energy, environment, waste, government, community, transportation, smart building/smart homes, public health, safety, etc.

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.)

1.	All material will be from online resources.

2.2 Additional Readings

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

1.	Freely available Web-based resources will be used.

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	This course leads students to relate IT to everyday life (CILO1). Through case studies and research, students can see not only the trend of IT usage (CILO3) but also are able to analyse the impact of IT in different contexts (CILO2).
PILO 2: Explain the basic methodologies and techniques of inquiry of the arts and humanities, social sciences, business, and science and technology	This course is not really about IT per se. It covers the needs of societies, governments, businesses, and arts and sciences and how people made use of IT to help solve they needs. It is also related to how IT has changed the way we work and play. Through this study, students acquire a better understanding of how technology might be used to support different aspects of our life, including those that span arts and humanities, social sciences, etc. (CILO1-3)
PILO 3: Demonstrate critical thinking skills	Critical thinking skills will be developed when students document their thoughts and opinions in their reading reports after performing online research and reading on pre-defined topics. Students will be randomly selected to present their thoughts in class. (CILO1-3)
PILO 4: Interpret information and numerical data	Students will collect information and numerical figures in the reading assignments and research for the project to analyse the use and impact of IT in various domains. (CILO2)
PILO 5: Produce structured, well-organised and fluent text	The semester-long project will require students to analyze and understand a selected problem or issue, find case studies, perform research studies, analyze benefits, find cultural differences, and formulate opinions. Analytical skills will be exercised when students write their reading assignment report. (CILO1-3)
PILO 6: Demonstrate effective oral communication skills	Students are selected randomly to present their reading reports. In addition, students are required to give a formal presentation at the end of the semester. (CILO1-3)
PILO 7: Demonstrate an ability to work effectively in a team	The semester-long project is a team project. Each team is required to report their progress regularly. The in-class activities also encourage teamwork. (CILO1-3)
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	-
PILO 10: Demonstrate the attitude and/or ability to accomplish discovery and/or innovation	Students demonstrate the attitude and ability to accomplish discovery and innovation in the IT case study project. (CILO1-3)

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
Team Project and presentation on the current development, impact to society, industry and global economy of "Build a Smart Home".