City University of Hong Kong
Course Syllabus

offered by Department of Information Systems
with effect from Semester A 2015 /2016

Part I Course Overview

Course Title:	Analysis and Design of ecommerce Systems
Course Code:	IS5414
Course Duration:	One Semester (13 weeks)
Credit Units:	3
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 focuses on systems analysis and design with an emphasis on the development of e-commerce systems. Methods of system documentation are examined through the use of object-oriented and structured analysis tools and techniques for describing processes, use cases, data structures, system objects, file designs, input and output designs, and program specifications.

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.	Understand the concepts and principles of the systems development life cycle (SDLC), including systems planning, systems analysis, systems design, systems implementation, and systems support.	25%		✓	
2.	Describe the systems analyst's role and responsibilities in a typical organization.	10%		✓	
3.	Use the tools and techniques of object-oriented system analysis methodology to effectively model systems requirements of real-world organizations.	25%		✓	
4.	Design and prototype forms, reports, screens, and user-computer dialogs which convey the look and feel of a new e-commerce system to real-world users.	20%			✓
5.	Demonstrate team building and project management skills effectively within a team environment.	10%	✓		
6.	Communicate information effectively in presentations with oral, written and electronic formats using media formats widely adopted for information systems development in business and government.	10%		✓	
		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	
TLA1 Lecture: Concepts of systems analysis and associated modelling techniques	• Concepts of systems analysis and associated modelling techniques are explained using activities designed to help students differentiate structured and object-oriented methods, apply different modelling techniques to real-world business problems, evaluate different business process change options, and select and evaluate appropriate requirements determination and structuring. • Concepts of e-commerce application development and user interaction are explained with examples to help students develop effective e-commerce systems in a creative way to address real-world business problems.	✓	✓		✓			Two-Hour Lecture/Week
TLA2 Laboratory: Technical aspects of information management are covered	• *Exercises*: Hands-on activities using CASE tools as part of systems modelling and creation exercises including requirement gathering, consensus formulation and outcome coordination and delivery. • *Discussion*: Discussion on implications of various concepts learnt in lectures, and how they can be applied to real-world problems. Discussion, critique and selection among different approaches of requirement determination, structuring and coordination, system acquisition and development, system architectures, as well as suggestion for improvement on above issues. • *Presentations*: Members of project team will make presentation of their project work, and the rest of the tutorial group and the instructor will comment and offer suggestions for improvements.	✓	✓	✓	✓	✓	✓	One-Hour Lab/Week
TLA3 Project: A group project requiring them to perform systems analysis and design activities	Students will have to complete a group project requiring them to perform systems analysis and design activities including capturing requirements, diagramming models, proposing acquisition/development alternatives and constructing an aesthetic and practical application prototype of a real-world application. Group project work will be submitted at different phases for review and comments by the instructor/tutors.	✓	✓	✓	✓	✓	✓	

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		
Coursework: 60%								
AT1 Participation: Participation in class and lab sessions in activities such as: - application of systems analysis techniques, including requirement and information gathering and structuring techniques - modelling exercises, presentation and discussion of proposed solutions to various scenarios of e-Business environment - contribution, critical analysis and suggestions for requirements - design and delivery of system prototypes, user interface and user interactions	✓	✓	✓	✓			20%	
AT2 Project: Each team of 3 or 4 local students combined with international counter-parts (if any) in a virtual team context will analyse, collect and structure requirements of a proposed system and deliver a final product which much then be interacted with other team deliverables. The project work should be completed in accordance with defined milestones e.g. <u>Start project</u> • Introduction of goals and objectives • Familiarization with communication tools <u>First interaction using communication tools</u> • Selection of topics • First interaction of virtual project teams <u>Start working in groups</u> • Contribution of topic ideas • Familiarization with asynchronous communication tools <u>Videoconference</u> • Further introduction to communication tools • Discuss research questions with team and plan the project Deadline for first deliverable (plan, risk assessment, research questions) Deadline for second deliverable (separate section finished and ready for review) Deadline for third deliverable (delivery of integrated product/system)	✓	✓	✓	✓	✓	✓	30%	
AT3 Personal Reflection: Members of each team provide a personal reflection on their personal contribution and learning as well as team dynamic and suggestions for improvements.					✓	✓	10%	

AT4 Final Exam This closed-book examination will assess both the conceptual understanding and the developed skills using one (or more) small eCommerce scenarios.	✓		✓				40%	
Examination: 40% (duration: 2 hours, if applicable)								
							100%	

 # Students must pass both coursework and examination in order to get an overall pass in this course.#

5. Assessment Rubrics

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

Assessment Task (AT)	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Adequate (C+, C, C-)	Marginal (D)	Failure (F)
AT1 Participation	Application of systems analysis techniques, including requirement and information gathering and structuring techniques	High	Significant	Moderate	Basic	Not even reaching marginal levels
AT2 Project	The project work should be completed in accordance with defined milestones	High	Significant	Moderate	Basic	Not even reaching marginal levels
AT3 Personal Reflection	Members of each team provide a personal reflection on their personal contribution and learning as well as team dynamics and suggestions for improvements	High	Significant	Moderate	Basic	Not even reaching marginal levels
AT4 Final Exam	Assess both the conceptual understanding and the developed skills using one (or more) small eCommerce scenarios	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.)

Systems development life cycle and methods; Object-oriented system analysis and design; Unified modelling language (UML) and business processes; Requirements determination; Requirement structuring; Conceptual Data Modelling; Analysis Classes; Human Interface and Prototyping; ecommerce system implementation; Virtual team interaction.

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.	Satzinger, Jackson and Burd, Systems Analysis & Design in a Changing World, 6th Edition, Course Technology, 2011. ISBN-13: 978-1111534158

2.2 Additional Readings

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

1.	Dennis, A., Wixom, B.H. and Roth, R.M., Systems Analysis and Design, John Wiley, 6th edition, 2014.
2.	Whitten, J.L. and Bentley, L.D., Systems Analysis and Design Methods, 7th edition, Irwin/McGraw Hill, 2005.
3.	George, J.F., Batra, D., Valacich, J. and Hoffer, J.A., Object-Oriented System Analysis and Design, 2nd edition, Prentice Hall, 2006.
4.	Kendall, K.E. and Kendall, J.E., Systems Analysis and Design, 9th edition, Prentice Hall, 2013.
5.	Bennett, S., McRobb, S. and Farmer, R., Object-Oriented Systems Analysis and Design Using UML, 4th edition, McGraw Hill, 2010.
6.	Larman, C., Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and Iterative Development, 3rd edition, Prentice Hall PTR, 2004.

Online Resources

Online Chapter 18 from Turban et al.
Practical UML: A Hands-On Introduction for Developers