City University of Hong Kong
Course Syllabus

offered by Department of Computer Science
with effect from Semester A 2015/16

Part I Course Overview

Course Title:	Web Usability Design and Engineering
Course Code:	CS3382
Course Duration:	One semester
Credit Units:	3 credits
Level:	B3
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)*	(CS1303 Introduction to Internet and Programming or CS2204 Fundamentals of Internet Applications Development or CS3270 Fundamentals of Computer Networks and the Internet, or equivalent) AND (CS2310 Computer Programming or CS2311 Computer Programming or CS2312 Problem Solving and Programming or CS2313 Computer Programming or CS2360 Java Programming, or equivalent)
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)

This course aims to provide students with a balance of design and engineering concepts, principles and professional practices related to Web site design and usability. It also aims to develop students' ability to design, create, and analyse Web sites for usability and accessibility.

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.	Perform a Web site design project using established process models and professional practices.		✓	✓	
2.	Create, design and implement a Web site by applying sound design principles and professional practices for usability and accessibility.		✓	✓	
3.	Perform usability testing or use other techniques and tools to improve Web usability.			✓	
4.	To appreciate, learn and critique new technologies and trends in Web usability engineering.		✓		
** 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 hours lecture; 1 hour tutorial.

TLA	Brief Description	CILO No.				Hours/week (if applicable)
		1	2	3	4	
Lecture	Explain key concepts, such as principles in Web site design.	✓	✓	✓	✓	
Journal or report	Students are expected to do a fair amount of reading both within and outside of the textbooks. They are required to document in a journal or report their learning and insights of Web site design, usability and accessibility professional practices.	✓	✓	✓	✓	
Presentation	Students are required to give presentations in class and discuss their findings. The teacher will guide discussions and help focus issues.	✓	✓	✓	✓	
Mini-project	Each student will be required to select an existing Web site and critically analyse its usability and accessibility. They will create a new design of a simple Web site following professional practices, guidelines and standards in Web design, usability and accessibility. The mini-project should be documented in a project report.	✓	✓	✓	✓	

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		
Continuous Assessment: 60%						
Journal or Report Write-up				✓	20%	
Mini-project and Presentation	✓	✓	✓	✓	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.

This is a CEF approved course, students who want to apply for CEF claims must achieve at least 70% minimum attendance and obtain at least 50% passing mark for the assessment of the course.

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-)	Adequate (C+, C, C-)	Marginal (D)	Failure (F)
1. Analysis Report Write-up	1.1 ABILITY to study and clearly document findings of Web site design principles and professional practices	High	Significant	Moderate	Basic	Not even reaching marginal levels
2. Mini-project and Presentation	2.1 ABILITY to create, design and implement a Web site by applying sound design principles and professional practices for usability and accessibility	High	Significant	Moderate	Basic	Not even reaching marginal levels
	2.2 ABILITY to organize and clearly present the techniques used in the mini-project to improve Web usability	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.)

Web site development methodologies. Web site usability and accessibility. Web standards. XHTML/CSS. Design principles and style guidelines. Information architecture. Graphic design and layout. Usability testing. Search engine optimization. Web site analytics. New Web technologies and trends.

Syllabus

1. Web site development methodologies
   Web site development life cycle. User-centric design model. Process models. Core process workflow.

2. Web standards for usability and accessibility
   XHTML. CSS. WAI/Section 508.

3. Design principles and guidelines for the Web
   Basic Web design principles. Web style guidelines. Basic graphic layout: fonts, colors, etc. Usability and accessibility guidelines. Professional practices for Web design.

4. Usability testing, techniques and tools
   Usability testing procedures. Analysis of test results. Search engine optimization. Web analytics.

5. New technologies and trends
   Web 2.0. Web 3.0.

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.)

2.2 Additional Readings

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

1.	Rush, S. (2015). *Quantum Web Accessibility: Organizational Awareness, Alignment, and Realization*. Taylor & Francis Group. ISBN 978-1138808676.
2.	Horton, S., and Quesenbery W. (2014). *A Web for Everyone: Designing Accessible User Experiences.* Rosenfeld Media. ISBN 978-1933820972.
3.	Pickering, H. (2014). *Apps For All: Coding Accessible Web Interfaces. Smashing Magazine*. ISBN 978-3944540795.
4.	Krug, S. (2014). *Don't Make Me Think, Revisited: A Common Sense Approach to Web Usability* (3rd Edition). New Riders. ISBN 978-0321965516.
5.	Connor, J.O. (2012). *Pro HTML5 Accessibility: Building an Inclusive Web.* Apress. ISBN 978-1430241942.
6.	Chisholm, W., and May, M. (2008). *Universal Design for Web Applications: Web Applications That Reach Everyone.* O'Reilly. ISBN 978-0596518738.
7.	Pearrow, M. (2006). *Web Usability Handbook* (2nd Edition). Charles River Media. ISBN 978-1584504696.