City University of Hong Kong
Course Syllabus

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

Part I   **Course Overview**

Course Title:	Research in Computer Science
Course Code:	CS8695
Course Duration:	One semester
Credit Units:	2 credits
Level:	R8
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**

The aim of this course is to develop a graduate student's participation in research planning.   Through attendance, a student will (i) be exposed to recent research trends and results in the literature from different areas; (ii) be aware of and appreciate various presentation skills and styles; (iii) come into contact with external and internal researchers.   Through report writing, the student will (iv) perform an in-depth study of a research topic by conducting literature search, and practice comprehension and writing skill.   Through seminar presentation, the student will (v) develop and practise presentation skill.

2. **Course Intended Learning Outcomes (CILOs)**

No.	CILOs[#]	Weighting* (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	*A2*	*A3*
1.	Give considerations to different research approaches.		✓		
2.	Identify the strengths and limitation of each method by conducting a comprehensive literature search.			✓	
3.	Appreciate and report on different formats of presentation.		✓		
4.	Able to evaluate on existing research findings critically and discover possible solutions to these findings.		✓	✓	
5.	To communicate and deliver research findings effectively.		✓		

* 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)

Teaching pattern:
Suggested lecture/tutorial/laboratory mix: 2 hrs. lecture / seminar

TLA	Brief Description	CILO No.					Hours/week (if applicable)
		1	2	3	4	5	
Lectures	The lectures, delivered by different faculty members, will focus on the introduction of research methodologies and topics from different research areas. In one of the lectures, the major databases or search tools for computer science research, e.g., IEEE Xplore, ACM Digital Library, Science Citation Index, etc., will be introduced to the students, so that they can learn to conduct effective literature search in different areas of computer science.	✓	✓				
Seminars	Students will attend at least four seminars or colloquia.			✓			
Presentations	Each student will give a seminar presentation based on a selected research topic in computer science.				✓		
Evaluation of research findings	Each student will perform a critical evaluation of the research findings in one of the seminars/colloquia attended, identify the advantages and limitations of the research methods adopted by effectively utilizing the main databases or search tools to conduct literature review, and summarize these findings in the form of a report.					✓	

4. Assessment Tasks/Activities (ATs)

Assessment Tasks/Activities	CILO No.					Weighting*	Remarks
	1	2	3	4	5		
Continuous Assessment: <u>100%</u>							
Lecture/seminar attendance	✓	✓	✓			40%	
Presentation				✓		30%	
Report					✓	30%	
Examination: <u>0%</u>							

The weightings should add up to 100%. | 100% |

Grading pattern: Pass/Fail based on attendance, report submission and seminar presentation.

5.   Assessment Rubrics

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
1. Lecture/seminar attendance and reporting	Ability to judiciously apply research methodologies learnt from the lectures/seminars to various research topics in computer science.	High	Significant	Moderate	Basic	Not even reaching marginal levels
	Capability to summarize and communicate research findings from different research areas in an effective way.					
	Capacity to identify the merits/limitations of different research methodologies.					
	Ability to utilize the main databases and search tools for computer science research to conduct effective literature review.					
2. Presentation	Capacity to critically analyse existing research problems, and to discover possible solutions to these problems.	High	Significant	Moderate	Basic	Not even reaching marginal levels
	Capability to effectively prepare and deliver a seminar to provide a critical analysis of a current research problem.					

Part III   Other Information (more details can be provided separately in the teaching plan)

1. **Keyword Syllabus**

   Research Seminars, Computer Science Research, Research Methodology, Presentations, Research Topics, Literature Search, Computer Networks, Distributed Systems, Information Security, E-commerce Technologies, Software Engineering, Service-Oriented Computing, Real-time Systems, Embedded Systems, Applied Algorithms, Multimedia Technologies, Computer Systems, E-learning, Innovative Technology for Education, Bioinformatics, Artificial Intelligence and Knowledge and Data Management.

2. **Reading List**
2.1 **Compulsory Readings**

	N/A

2.2 **Additional Readings**

	N/A