City University of Hong Kong
Course Syllabus

offered by Department of Computer Science
with effect from Semester A 2024/25

Part I   Course Overview

Course Title:	Project
Course Code:	CS6520
Course Duration:	Two semesters
Credit Units:	6 credits
Level:	P6
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites: *(Course Code and Title)*	Students should have completed at least 12 credit units (including two required courses)
Precursors: *(Course Code and Title)*	Nil
Equivalent Courses: *(Course Code and Title)*	Nil
Exclusive Courses: *(Course Code and Title)*	CS6521 Research/Internship Project

Part II   Course Details

1.   Abstract

This course aims to provide an opportunity for students to explore individually an area of computer science of their own choice.   It allows students to develop their skill and knowledge further in the area of interest. It provides the context for students to demonstrate their ability to integrate specialized knowledge that they have acquired in other preceding and concurrent courses of study and apply them to solve an advanced problem with a working solution.

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 a challenging computer related problem, analyze the problem in detail; and propose innovative solutions through computing means.		✓		
2.	Provide a proof-of-concept for the solution by designing and developing a working system or application.			✓	✓
3.	Implement and evaluate the developed system or application to match the initial system requirements.				✓
4.	Document and report the system design process, study, implementation and evaluation findings using different communication media.				✓
		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 real-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. Learning and Teaching Activities (LTAs)
(LTAs designed to facilitate students' achievement of the CILOs.)

Teaching pattern:
Suggested lecture/tutorial/laboratory mix: 8 hours individual consultation per semester.

The course is designed to guide students in proposing and managing their own projects.   Each student will find an academic staff to supervise the project on a one to one basis.

The role of the supervisor is to closely monitor the project progress with project meetings regularly, in order to give advice to the student, to establish criteria for assessment, and to advise on possible solutions and potential problems at an early stage.   In particular, the supervisor is expected to encourage the student to explore innovative approaches and alert the student to the possibility of alternative and novel solutions to problems encountered.

LTA	Brief Description	CILO No.				Hours/week
		1	2	3	4	(if applicable)
Project planning	Students will identify the problem for investigation and draft a project plan with appropriate milestones.	✓				
Project proposal	Students will analyze the problem identified and research on existing and/or related solutions. Then, in consultation with their supervisors, they will propose their own designs and solutions.		✓			
Project implementation and evaluation	Students will implement the proposed solutions and validate their designs by testing and evaluating the completed solution.			✓		
Project documentation	Students will document and explain their work in regular progress reports and a final report. At the end, they are required to present their projects in the form of oral presentation and demonstration.				✓	

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: <u>100</u>%						
Project management and individual development of the student	✓				10%	For assessment of technical merit, report, and presentation, the project committee assigns two examiners, including the supervisor. The Supervisor is required to give detailed grading reports on all aspects of assessment. The Assessor will evaluate the CILOs 2-4 of the project. The Course Leader will review all projects, moderate consistency across a wide range of projects, and, where necessary, resolve discrepancies between grading of the Assessor and the Supervisor, drawing on the expertise of domain experts as needed.
Technical merit of the proposed solution, including the degree of innovation in the proposed design or solution		✓	✓		50%	
Standard of final documentation				✓	30%	
Standard of oral presentation				✓	10%	
Examination: <u>0</u>%						
					100%	

Dissertation-type Course:

This course falls under the academic regulation for dissertation-type courses (AR12.6). The course assessed through 100% coursework.

Each student is assigned a supervisor from the academic staff for individual consultation.

The normal duration of the course is two semesters, after which the dissertation must be submitted.

The maximum duration of the course is four semesters, after which no further extension must be permitted.

Dissertation-type courses may NOT be repeated.

5. Assessment Rubrics

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

Applicable to students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
1. Project planning	1.1 ABILITY to IDENTIFY problems for investigations. 1.2 ABILITY to PLAN a project schedule with appropriate milestones, and MAINTAIN the project schedule.	High	Significant	Moderate	Basic	Not even reaching marginal levels
2. Project proposal	2.1 ABILITY to ANALYZE a problem. 2.2 ABILITY to EVALUATE, COMPARE, and CONTRAST existing solutions. 2.3 ABILITY to DESIGN and INNOVATE new solutions.	High	Significant	Moderate	Basic	Not even reaching marginal levels
3. Project implementation and evaluation	3.1 ABILITY to IMPLEMENT the proposed solution. 3.2 ABILITY to VALIDATE and TEST the implemented solution. 3.3 ABILITY to EVALUATE and INTERPRET results from the design, and COMPARE with existing solutions.	High	Significant	Moderate	Basic	Not even reaching marginal levels
4. Project documentation	4.1 ABILITY to DOCUMENT the progress of the project in interim reports. 4.2 ABILITY to DOCUMENT the OUTCOMES of the project in a final report. 4.3 ABILITY to DEMONSTRATE project outcomes in an oral presentation.	High	Significant	Moderate	Basic	Not even reaching marginal levels

Applicable to students admitted from Semester A 2022/23 to Summer Term 2024

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Marginal (B-, C+, C)	Failure (F)
1. Project planning	1.1 ABILITY to IDENTIFY problems for investigations. 1.2 ABILITY to PLAN a project schedule with appropriate milestones, and MAINTAIN the project schedule.	High	Significant	Moderate to Basic	Not even reaching marginal levels
2. Project proposal	2.1 ABILITY to ANALYZE a problem. 2.2 ABILITY to EVALUATE, COMPARE, and CONTRAST existing solutions. 2.3 ABILITY to DESIGN and INNOVATE new solutions.	High	Significant	Moderate to Basic	Not even reaching marginal levels
3. Project implementation and evaluation	3.1 ABILITY to IMPLEMENT the proposed solution. 3.2 ABILITY to VALIDATE and TEST the implemented solution. 3.3 ABILITY to EVALUATE and INTERPRET results from the design, and COMPARE with existing solutions.	High	Significant	Moderate to Basic	Not even reaching marginal levels
4. Project documentation	4.1 ABILITY to DOCUMENT the progress of the project in interim reports. 4.2 ABILITY to DOCUMENT the OUTCOMES of the project in a final report. 4.3 ABILITY to DEMONSTRATE project outcomes in an oral presentation.	High	Significant	Moderate to 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.)

    The Project has no fixed formal syllabus.   Each student will be required to undertake an individual piece of work, which is related to the computing areas.   The topic area of the dissertation will be chosen so that the aims of the Project can be achieved.   Criteria for topic choice include: (i) compatibility with a subject area of Computer Science, (ii) availability of a qualified supervisor; (iii) appropriate academic level; (iv) availability of necessary specialized resources.   Topic areas include: Computer Networks, Distributed Systems, Software Engineering, Data Engineering, Performance Evaluation, Multimedia Systems, Artificial Intelligence, Algorithms, Programming Languages, Information Security, Pervasive Computing, Bioinformatics, Data Science, Machine Learning, Cloud Computing, Evolutionary Computing, Mobile Computing, Embedded Systems, Computer Graphics, Computer Vision.

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.)

	N/A

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

	N/A