

**City University of Hong Kong
Course Syllabus**

**offered by Department of Architecture and Civil Engineering
with effect from Semester A 2024/25**

Part I Course Overview

Course Title:	Next-generation Smart Cities
Course Code:	CA5325
Course Duration:	1 Semester (Some courses offered in Summer Term may start a few weeks earlier than the normal University schedule. Please check the teaching schedules with CLs before registering for the courses.)
Credit Units:	3
Level:	P5
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites: <i>(Course Code and Title)</i>	Nil
Precursors: <i>(Course Code and Title)</i>	Nil
Equivalent Courses: <i>(Course Code and Title)</i>	Nil
Exclusive Courses: <i>(Course Code and Title)</i>	Nil

Part II Course Details

1. Abstract

The course provides the fundamental concepts of next-generation engineers, smart cities and emerging technologies. The course also equips students with the necessary skillsets to design and develop innovative applications coupled with emerging technologies for smart cities.

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 attributes of next-generation engineers and concepts of smart cities;		✓	✓	
2.	Understand the next-generation technologies for smart cities development;		✓	✓	
3.	Design innovative use cases for smart cities applications.		✓	✓	✓
		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	
Lecture and tutorial	Lecture on the core materials related to next-generation engineer, smart cities, emerging technologies and design thinking methodology.	✓	✓	✓	1.5
Project/ Case Study	Student project on topics related to next-generation smart cities application development.	✓	✓	✓	1.5

Semester Hours:	3 hours per week
Lecture/Tutorial/Laboratory Mix:	Lecture (1.5); Tutorial (MIX); Workshop (MIX)
	1.5 hrs Lecture and 1.5 hrs for combined Tutorials, project and workshop sessions

4. Assessment Tasks/Activities

(ATs are designed to assess how well the students achieve the CILOs.)

Assessment Tasks / Activities	CILO No.			Weighting	Remarks
	1	2	3		
Continuous Assessment: 100%					
Assignment / quiz	✓	✓	✓	45%	
Project proposal presentation	✓	✓	✓	25%	
Project / Case Study	✓	✓	✓	30%	
Examination: 0% (duration: 0 hour(s))					
Examination				0%	
				100%	

To pass a course, a student must obtain minimum marks of 30% individual coursework components and an overall mark of at least 40%.

5. Assessment Rubrics

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

Applicable to students admitted in Semester A 2022/23 and thereafter

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Marginal (B-, C+, C)	Failure (F)
Assignment / quiz	ABILITY to PERFORM and APPLY basic theories and assessments related to smart cities	High	Significant	Basic	Not even reaching marginal levels
Project proposal presentation	ABILITY to APPLY knowledge and skills acquired in the class to design innovative use cases for smart cities applications	High	Significant	Basic	Not even reaching marginal levels
Project / Case Study	ABILITY to APPLY knowledge and skills acquired in the class to design innovative use cases for smart cities applications SYSTEMATICALLY	High	Significant	Basic	Not even reaching marginal levels

Applicable to students admitted before Semester A 2022/23

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
Assignment / quiz	ABILITY to PERFORM and APPLY basic theories and assessments related to smart cities	High	Significant	Moderate	Basic	Not even reaching marginal levels
Project proposal presentation	ABILITY to APPLY knowledge and skills acquired in the class to design innovative use cases for smart cities applications	High	Significant	Moderate	Basic	Not even reaching marginal levels
Project / Case Study	ABILITY to APPLY knowledge and skills acquired in the class to design innovative use cases for smart cities applications SYSTEMATICALLY	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 cities; next-generation engineering; digital engineering; digital technologies; quantum technologies; AI applications; design thinking

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.	Nil
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2.2 Additional Readings

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

1.	Nil
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