

**City University of Hong Kong
Course Syllabus**

**offered by Department of Public and International Affairs
with effect from Semester A 2024/25**

Part I Course Overview

Course Title:	<u>Practice in Smart City Management</u>
Course Code:	<u>PIA6504</u>
Course Duration:	<u>One semester</u>
Credit Units:	<u>3</u>
Level:	<u>P6</u>
Medium of Instruction:	<u>English</u>
Medium of Assessment:	<u>English</u>
Prerequisites: <i>(Course Code and Title)</i>	<u>Nil</u>
Precursors: <i>(Course Code and Title)</i>	<u>Nil</u>
Equivalent Courses: <i>(Course Code and Title)</i>	<u>None</u>
Exclusive Courses: <i>(Course Code and Title)</i>	<u>None</u>

Part II Course Details

1. Abstract

This course aims to provide students with interdisciplinary knowledge and practice of how innovations in technology, design, planning, and policy can improve urban living and quality of life — at both a local and global level. Learning materials and activities will cover how the application of disruptive technology, such as artificial intelligence (AI), blockchain, the Internet of Things (IoT), and data analytics, can solve urban challenges and increase resource efficiency. Based on principles of participative learning, the course further enables students to gain knowledge and develop skills experience in integrating ingredients in technology, social sciences, and management for innovating smart city solutions.

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 digital technologies and data science principles in the design and operation of smart cities		x	x	
2	Understand how social analytics enable business intelligence capabilities and be able to apply the concepts to smart city domains		x	x	
3	Equip students with solution development skills and evidence-based reasoning to smart city innovations			x	x
		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.)

LTA	Brief Description	CILO No.						Hours/week (if applicable)
		1	2	3				
Structured seminars	Structured seminars on policy, business, and social implications of smart city innovations	√	√					
Problem set of data science	Take home quiz on data science principles in the design and operation of smart cities	√						
Group presentation	Design and report an innovative project based on digital technologies		√	√				
Completion of test	In-class test	√	√	√				

4. Assessment Tasks/Activities (ATs)

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

Students are required to pass BOTH the coursework assessment AND the examination before they can be awarded an overall passing grade of the course.

Assessment Tasks/Activities	CILO No.						Weighting	Remarks
	1	2	3					
Continuous Assessment: 100%								
Class attendance & participation	√	√					10%	
Individual digital literacy assessment	√	√					25%	
Group presentation		√	√				20%	
Individual project	√	√					45%	
Examination: 0%								
							100%	

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)
Attendance & participation	Active participation in class	Actively participate in class discussion with insightful speech and show excellent demonstration of knowledge, understanding, and interpretation of concepts	Actively participate in class discussion and show good demonstration of knowledge, understanding, and interpretation of concepts	Rarely participate in class discussion and show basic demonstration of knowledge, understanding, and interpretation of concepts	Rarely participate in class discussion and show poor demonstration of knowledge, understanding, and interpretation of concepts	No participation in class discussion with inadequate demonstration of knowledge, understanding, and interpretation of concepts
Individual digital literacy assessment	Take home quiz on data science principles in the design and operation of smart cities	Excellent ability to apply what has been learned over the semester to analyse data in the context of smart cities.	Good ability to apply what has been learned over the semester to analyse data in the context of smart cities.	Basic ability to apply what has been learned over the semester to analyse data in the context of smart cities.	Poor ability to apply what has been learned over the semester to analyse data in the context of smart cities.	Inadequate ability to apply what has been learned over the semester to analyse data in the context of smart cities.
Group presentation	Design and report an innovative project based on digital technologies	Excellent demonstration of knowledge, understanding, and interpretation of digital technologies in use of smart city management	Good demonstration of knowledge, understanding, and interpretation of digital technologies in use of smart city management	Basic demonstration of knowledge, understanding, and interpretation of digital technologies in use of smart city management	Poor demonstration of knowledge, understanding, and interpretation of digital technologies in use of smart city management	Inadequate demonstration of knowledge, understanding, and interpretation of digital technologies in use of smart city management
Individual project	In-class test	An excellent level of understanding of materials covered during all thirteen weeks of the course	A good level of understanding of materials covered during all thirteen weeks of the course	A basic level of understanding of materials covered during all thirteen weeks of the course	A poor level of understanding of materials covered during all thirteen weeks of the course	An inadequate level of understanding of materials covered during all thirteen weeks of the course

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

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Marginal (B-, C+, C)	Failure (F)
Attendance & participation	Active participation in class	Actively participate in class discussion with insightful speech and show excellent demonstration of knowledge, understanding, and interpretation of concepts	Actively participate in class discussion and show good demonstration of knowledge, understanding, and interpretation of concepts	Rarely participate in class discussion and show basic demonstration of knowledge, understanding, and interpretation of concepts	No participation in class discussion with inadequate demonstration of knowledge, understanding, and interpretation of concepts
Individual digital literacy assessment	Take home quiz on data science principles in the design and operation of smart cities	Excellent ability to apply what has been learned over the semester to analyse data in the context of smart cities.	Good ability to apply what has been learned over the semester to analyse data in the context of smart cities.	Basic ability to apply what has been learned over the semester to analyse data in the context of smart cities.	Inadequate ability to apply what has been learned over the semester to analyse data in the context of smart cities.
Group presentation	Design and report an innovative project based on digital technologies	Excellent demonstration of knowledge, understanding, and interpretation of digital technologies in use of smart city management	Good demonstration of knowledge, understanding, and interpretation of digital technologies in use of smart city management	Basic demonstration of knowledge, understanding, and interpretation of digital technologies in use of smart city management	Inadequate demonstration of knowledge, understanding, and interpretation of digital technologies in use of smart city management
Individual project	In-class test	An excellent level of understanding of materials covered during all thirteen weeks of the course	A good level of understanding of materials covered during all thirteen weeks of the course	A basic level of understanding of materials covered during all thirteen weeks of the course	An inadequate level of understanding of materials covered during all thirteen weeks of the course

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.)

Co-creation, Data Analytics, Innovation, Liveability, Smart Systems, Sustainability, Urban Planning

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.)

	Dey, N., Hassanien, A. E., Bhatt, C., Ashour, A. S., & Satapathy, S. C. (Eds.). (2018). <i>Internet of Things and big data analytics toward next-generation intelligence</i> . Springer International Publishing.
	Dey, N. and Tamane, S. (2018). <i>Big Data Analytics for Smart and Connected Cities</i> . IGI Global. DOI: 10.4018/978-1-5225-6207-8
	Barends, E. & Rousseau, D. M. (2018). <i>Evidence-based management: How to use evidence to make better organizational decisions</i> . New York: Kogan-Page
	Silva, B. N., Khan, M., & Han, K. (2018). Towards sustainable smart cities: A review of trends, architectures, components, and open challenges in smart cities. <i>Sustainable Cities and Society</i> , 38, 697-713.
	Angelidou, Margarita (2014). Smart City Policies: A Spatial Approach. <i>Cities</i> , 41, S3-S11.
	Lam, Patrick T.I, & Yang, Wenjing. (2020). Factors influencing the consideration of Public-Private Partnerships (PPP) for smart city projects: Evidence from Hong Kong. <i>Cities</i> , 99, 102606.

2.2 Additional Readings

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

	Gassmann, O., Böhm, J. and Palmié, M., 2019. <i>Smart Cities: Introducing Digital Innovation to Cities</i> . Emerald Group Publishing.
	Organisation for Economic Co-operation and Development, 2018. <i>Rethinking urban sprawl: moving towards sustainable cities</i> . OECD Publishing.
	Pierre, J. (1999). Models of Urban Governance: The Institutional Dimension of urban politics. <i>Urban Affairs and Review</i> , 34(2): 372-396.
	Campbell, S. (1996). Green Cities, Growing Cities, Just Cities? Urban Planning and the Contradictions of Sustainable Development. <i>Journal of the American Planning Association</i> , 62(3): 296-312.
	Davies, W. K. D. (1997). Sustainable Development and Urban Policy: Hijacking the Term in Calgary. <i>GeoJournal</i> , 43(4): 359-369.
	https://asean.org/asean/asean-smart-cities-network/