

**City University of Hong Kong
Course Syllabus**

**offered by Department of Public and International Affairs
with effect from Semester A 2024/2025**

Part I Course Overview

Course Title:	<u>Understanding and Managing Smart Cities</u>
Course Code:	<u>PIA5510</u>
Course Duration:	<u>One semester</u>
Credit Units:	<u>3</u>
Level:	<u>P</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

A smart city is a city in which decision-making elements are fulfilled by knowledge-based automated systems. Smart cities enhance livability, workability and sustainability by leveraging methodological and technical innovations to allow those systems to work synergistically with each other and to interact more effectively with the inhabitants. However, on the other hand, they also run the risk of adverse effects of automated decision-making. In the first half of this course, through discussion-based seminars students will learn about the development of the smart city, influence of smart city infrastructure, criteria for measuring the smartness of a city, the role of data and information technology, and other related issues that go towards the making of a future smart city. The second half of this course will focus on group-based student projects that reflect on the understanding and evaluating smart city technologies, discussing: (1) approaches to designing and implementing strategic planning techniques and governance models that facilitate smart city development, including environmental scanning, stakeholder analysis, strategic issue identification, and strategy formulation; and (2) development a critical awareness and evaluation of the potential strengths and weaknesses of smart city initiatives; and translate this evaluation into suggestions for adjustment directions for these smart city projects.

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	To provide an understanding of the foundational elements of a smart city and address the breadth of systems that comprise it.		√	√	
2	To get an initial understanding of the potential for IT to improve the interactions between humankind in cities and the planet, and the potential for harm.		√	√	
3	To define the purpose, scope, and process of strategic planning as a tool. To practice approaches to designing and conducting strategic planning.			√	√
4	To evaluate concrete smart city initiatives. And to develop suggestions than can help to ameliorate potential shortcomings of smart city initiatives while not hurting potential strengths.			√	√
		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	4	
Discussion-based Seminars	Presentation of theories, concepts and ideas based on academic literature and real-world examples. Course lecturer (and guest speakers) moderates discussions with students attending the workshops, answers questions and facilitates class exercises.	√	√	√		Three hours per week during the first half of the course
Readings	Readings contained in the Course Outline to be read by every student before class	√	√	√	√	This will vary from student to student: average: 4-5 hours per week
Group Projects and Presentations	Students will <ul style="list-style-type: none"> work as a member of a group / team to understand and critically discuss a smart city application; locate relevant information; evaluate, organize & synthesize materials; present ideas to the class in a clear, concise; and stimulating way; engage with classmates in answering questions and discussing presentation topics. 	√	√	√	√	6 hours allocated for presentations (excluding preparation)
In-Class test	Advances students' ability in integrating information, and develops analytic and communication skills	√	√	√	√	

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	4		
Participation	√	√	√	√	10%	Students are expected to actively participate in class meetings. They must read and contemplate the course literature prior to class. Good class participation involves: active listening, consideration of your peers, making comments, asking questions, taking risks and giving opinions.
Group Presentation	√	√	√	√	20%	In groups, students will select one smart city technology, and students will explain and critically access its functioning.
Term paper	√	√	√	√	30%	Based on their group presentation and the critical feedback to that presentation, the students will write a group

						paper explaining and critically discussing a smart city technology of choice.
In-class test (duration 2 hrs)	√	√	√	√	40%	After the first part of the course that consists of a series of discussion-based seminars and before the second part in which students engage in group projects there will be an in-class test to assess the understanding of the students of the course material.
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-)	Adequate (C+, C, C-)	Marginal (D)	Failure (F)
Participation	Ability to present & communicate Frequency of participation Quality of comments	Demonstrate <i>high capacity</i> to present and communicate in oral and/or written format by proactively offering comments balanced between general impressions, opinions & specific, thoughtful criticisms or contributions and asking questions related to smart cities	Demonstrate <i>significant capacity</i> to present and communicate in oral and/or written format by proactively offering comments balanced between general impressions, opinions & specific, thoughtful criticisms or contributions and asking questions related to smart cities	Demonstrate <i>moderate capacity</i> to present and communicate in oral and/or written format by proactively offering comments balanced between general impressions, opinions & specific, thoughtful criticisms or contributions and asking questions related to smart cities	Demonstrate <i>basic capacity</i> to present and communicate in oral and/or written format by proactively offering comments balanced between general impressions, opinions & specific, thoughtful criticisms or contributions and asking questions related to smart cities	Demonstrate little or no evidence in participation
Group Presentation	Teamwork Contribution Subject knowledge Listening skills and quality answers in discussion	Demonstrate <i>high capacity</i> in teamwork to achieve objectives in a way that each member contributed in a valuable way to the presentation topic and/or response to questions raised. The deliverable(s) also demonstrated evidence of comprehensive research effort and a depth of thinking about the topic	Demonstrate <i>significant capacity</i> in teamwork to achieve objectives in a way that each member contributed in a valuable way to the presentation topic and/or response to questions raised. The deliverable(s) also demonstrated evidence of extensive research effort and a depth of thinking about the topic	Demonstrate <i>moderate capacity</i> in teamwork to achieve objectives in a way that each member contributed in a valuable way to the presentation topic and/or response to questions raised. The deliverable(s) also demonstrated evidence of sufficient research effort and a depth of thinking about the topic	Demonstrate <i>basic capacity</i> in teamwork to achieve objectives in a way that each member contributed in a valuable way to the presentation topic and/or response to questions raised. The deliverable(s) also demonstrated evidence of little research effort and a depth of thinking about the topic	Demonstrate little or no effort in group presentation
Term paper	Teamwork Organisation Logical analysis & argument Written skills and citation	Demonstrate <i>high capacity</i> in teamwork to coherently elucidate the chosen topic with a comprehensive, clear, and logical analysis & arguments together with an all-rounded literature review & references in an excellent academic writing style, structure and full citation	Demonstrate <i>significant capacity</i> in teamwork to coherently elucidate the chosen topic with a comprehensive, clear, and logical analysis & arguments together with an all-rounded literature review & references in a good academic writing style, structure and full citation	Demonstrate <i>moderate capacity</i> in teamwork to coherently elucidate the chosen topic with a comprehensive, clear, and logical analysis & arguments together with an all-rounded literature review & references in an adequate academic writing style, structure and full citation	Demonstrate <i>basic capacity</i> in teamwork to coherently elucidate the chosen topic with a comprehensive, clear, and logical analysis & arguments together with an all-rounded literature review & references in a marginal academic writing style, structure and full citation	Demonstrate little or no effort in term paper
In-class test	Course key concepts and assigned journal articles	Demonstrate excellent performance in the in-class test	Demonstrate good performance in the in-class test	Demonstrate adequate performance in the in-class test	Demonstrate marginal performance in the in-class test	Demonstrate poor performance in the in-class test

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)
Participation		Be present at all classes, and actively engage with the lectures and participate in discussions.	Be present at all lectures and regularly participating in discussions	Be present at lectures, but rarely participating in discussions	No active participation to the classes
Group Presentation		Demonstrating comprehensive, in-depth understanding of the presentation topic.	Demonstrating a fairly good understanding of the presentation topic.	Demonstrating adequate understanding of the presentation topic.	Fail to demonstrate an adequate understanding of the presentation topic.
Term paper		Demonstrating comprehensive, in-depth understanding of the term paper topic.	Demonstrating a fairly good understanding of the term paper topic.	Demonstrating adequate understanding of the term paper topic.	Fail to demonstrate an adequate understanding of the term paper topic
In-class test		Demonstrating comprehensive, in-depth understanding of the course literature on smart city development	Demonstrating a good understanding of the course literature on smart city development	Demonstrating and adequate understanding of the course literature on smart city development	Fail to demonstrate an understanding of the course literature on smart city development

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 City; SimCity; Politics of Planning; Technocracy; Social Engineering; Modernist Planning and its Shortcomings; Smart Citizens; The Government and Business Rational for Big Data; Strengths and Weaknesses of the Smart City; Strategic Management in Public Sector.

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. Greenfield, Adam (2017) *Radical Technologies: The Design of Everyday Life*, London & New York: Verso.
2. Angelidou, Margarita (2014). Smart City Policies: A Spatial Approach. *Cities*, 41, S3-S11.
3. Khansari, Nasrin, Ali Mostashari, and Mo Mansouri (2014). Impacting Sustainable Behaviour and Planning in Smart City. *International Journal of Sustainable Land Use and Urban Planning* 1(2), 46-61.
4. Hashem, Ibrahim Abaker Targio, Victor Chang, Nor Badrul Anuar, Kayode Adewole, Ibrar Yaqoob, Abdullah Gani, Ejaz Ahmed, and Haruna Chiroma (2016). The Role of Big Data in Smart City. *International Journal of Information Management* 36(5), 748-758.
5. Thite, Mohan (2011). Smart Cities: Implications of Urban Planning for Human Resource Development. *Human Resource Development International* 14(5), 623-631.
6. Andrews, Rhys, George A. Boyne, Jennifer Law and Richard M. Walker. (2012) *Strategic Management and Public Service Performance*. Palgrave Macmillan.
7. Bryson, John (2011). *Strategic Planning for Public and Nonprofit Organizations: A Guide to Strengthening and Sustaining Organizational Achievement*. 4th edition. San Francisco, CA: Jossey-Bass. ISBN 9780470392515
8. Poister, Theodore H. (2010) The Future of Strategic Planning in the Public Sector: Linking Strategic Management and Performance, *Public Administration Review*, 5246-5254.
9. Albino, V., Berardi, U., & Dangelico, R. M. (2015). Smart cities: Definitions, dimensions, performance, and initiatives. *Journal of urban technology*, 22(1), 3-21.
10. Ma, Ruiqu, Lam, Patrick T.I, & Leung, C.K. (2018). Potential pitfalls of smart city development: A study on parking mobile applications (apps) in Hong Kong. *Telematics and Informatics*, 35(6), 1580-1592.
11. Castelnovo, W. (2019). Coproduction and Cocreation in Smart City Initiatives: An Exploratory Study. In *E-Participation in Smart Cities: Technologies and Models of Governance for Citizen Engagement* (pp. 1-20). Springer, Cham.
12. Lam, Patrick T.I, & Yang, Wenjing. (2020). Factors influencing the consideration of Public-Private Partnerships (PPP) for smart city projects: Evidence from Hong Kong. *Cities*, 99, 102606.
13. Ma, Ruiqu, & Lam, Patrick T.I. (2019). Investigating the barriers faced by stakeholders in open data development: A study on Hong Kong as a “smart city”. *Cities*, 92, 36-46.

14. Office of the Government Chief Information Officer (2019), Smart city development in Hong Kong. *IET Smart Cities*, 1(1), 23-27.
15. Srnicek, N. (2017). *Platform capitalism*: John Wiley & Sons.
16. Cinnamon, J. (2020). *Platform philanthropy, 'public value', and the COVID-19 pandemic moment*. *Dialogues in Human Geography*, 10(2), 242-245.
doi:10.1177/2043820620933860

2.2 Additional Readings

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

1	http://readinessguide.smartcitiescouncil.com/
2	http://www.oreilly.com/data/free/the-global-impact-of-open-data.csp
3	http://smartcitiescouncil.com/resources/smart-cities-open-data-guide
4	http://empoweringcities.eiu.com/
5	http://workspace.unpan.org/sites/Internet/Documents/UNPAN96407.pdf
6	https://www.transportation.gov/sites/dot.gov/files/docs/Smart%20City%20Challenge%20Lessons%20Learned.pdf
7	https://www.smartcity.gov.hk/
8	https://www.smartnation.sg/docs/default-source/default-document-library/smart-nation-strategy_nov2018.pdf