Subject Description Form

Subject Code	LSGI3214
Subject Title	**Urban Informatics and City Planning**
Credit Value	3
Level	3
Pre-requisite/ Co-requisite/ Exclusion	LSGI2223 Geographic Information Science
Objectives	The aims of this subject are: 1. To introduce the evolution, emergence, concept and theory of urban informatics as an interdisciplinary people-centric subject related to city planning, with focus on how it fundamentally changes and shapes urban systems and make cities work more efficiently; 2. To describe what the key theories, techniques and technologies are needed for urban informatics; 3. To equip students with abilities and inspire them to apply practice-based methodological skills to pursuit new solutions in studying and solving city planning, operation and management issues to improve the quality of urban life.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. Grasp a theoretical knowledge of urban science, city planning, urban environment and development processes (L2); b. Be familiar with the procedures and practice involved in land use planning and environmental impact assessment in Hong Kong (L2); c. Have the experience and skills to collect, manipulate and manage geospatial datasets (L3); d. Be able to understand and integrate data from different sources and forms , and apply them in geospatial applications for urban and regional planning and/or smart city development (L4); and e. Be able to design and conduct Geo-IT project(s) related to urban and regional planning and/or smart city development (L4).
Subject Synopsis/ Indicative Syllabus	A. Urban Science – Urban system, urban policy, theory and practice of urban and regional planning; B. Planning system, statutory and non-statutory planning, development framework and development process in Hong Kong; C. Spatial analysis in urban planning, sustainable growth and environmental planning; D. Information system management for smart planning and sustainable development including Internet of Things, system analysis, big urban data analytics and data capture;

	E. Applications of geo-information in urban and regional planning, sustainable and suitability assessments, and city management; F. Applications of geo-information and 3D analysis in urban and landscape design, conservation, urban renewal, and place making; and G. Smart city – smart planning and development strategy, smart built-environment application system, and spatial data infrastructure and applications for the built environment and enabling technologies, geo-spatial simulation and computation.
Teaching/Learning Methodology	Teaching and learning materials will be provided for students' easy access. Contact hours will be used for formal lectures, in-class discussions , presentation, role play and public engagement forum simulation, and practical work. On-line forum discussions will be scheduled for topics on selected planning problems, for students to identify their level of understanding, and these will be used as an additional form of course assessment.

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)				
		a	b	c	d	e
1. Individual and Group Projects	40		✓	✓	✓	✓
2. Individual essay	20	✓			✓	✓
3. Examination	40	✓	✓		✓	
Total	100					

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Attendance/active participation in lecture/lab sessions is highly encouraged on active learning interactions through participation, discussion, role play and public engagement forum simulation for development projects, among lecturers, guest speakers from the industry and students, and train students' presentation skills. Individual and group projects will be used to help students understand current urban and regional issues, synthesize concepts and ideas, propose solutions by employing suitable geo-spatial solutions and assess students' ability to process and manage geospatial data for urban and regional applications. The essay will assess students' independent understanding of basic concepts of land use and urban and regional problems as well as students' ability of critical thinking, and English writing skills in both academic paper and professional report. An end of semester written examination will be given to test students' independent ability understanding of local and regional planning issues, theories, and practice, and to conceptualize holistic issues relating to the course experience.

Student Study Effort Expected	Class contact:	
	▪ Lecture	26 Hrs.
	▪ Practical	26 Hrs.
	Other student study effort:	
	▪ Project preparation work	23 Hrs.
	▪ Self study	30 Hrs.
	Total student study effort	105 Hrs.
Reading List and References	Text: 1. Alexander, C., & Center for Environmental Structure. (1977). A pattern language : Towns, buildings, construction (Series (Center for Environmental Structure) ; v. 2). New York: Oxford University Press. 2. Augusto, & Augusto, Juan Carlos. (2021). Handbook of smart cities. Cham: Springer. 3. Batty, M. (2013). The new science of cities. Cambridge, Massachusetts: MIT Press. 4. Batty, M. (2018). Inventing future cities. Cambridge, MA: MIT Press. 5. Bentley, I. (1985). Responsive environments : A manual for designers. London: Architectural Press. 6. Cullen, G. (1971). The concise townscape. New York: Van Nostrand Reinhold. 7. He, P. (2018). Making Hong Kong : A history of its urban development. Cheltenham: Edward Elgar Publishing. 8. Jacobs, J. (2011). The death and life of great American cities (50th anniversary ed., 2011 Modern Library ed.). New York: Modern Library. 9. Lillesand, T., Kiefer, R., & Chipman, J. (2015). Remote sensing and image interpretation (Seventh ed.). Hoboken, N.J.: John Wiley & Sons. 10. Lynch, K. (1960). The image of the city. (Publications of the Joint Center for Urban Studies). Cambridge [Mass.: Technology Press. 11. Moudon, A. V., & Hubner, M. H. (2000). Monitoring land supply with geographic information systems : theory, practice, and parcel-based approaches. John Wiley & Sons. 12. Shi, W., Goodchild, M. F., Batty, M., Kwan, M.-P., & Zhang, A. (2021). Urban Informatics. Springer Singapore Pte. Limited. 13. Smart City Blueprint of Hong Kong https://www.smartcity.gov.hk/ 14. Smart Nation Singapore https://www.smartnation.gov.sg/

	Journals:
	1. Computers, Environment and Urban Systems
	2. Annals of the American Association of Geographers
	3. Environment and Planning B
	4. International Journal of Urban and Regional Research
	5. Urban Geography
	6. Urban Studies
	7. GeoInformatica