City University of Hong Kong
Course Syllabus

offered by Department of Architecture and Civil Engineering
with effect from Semester A 2022/23

Part I Course Overview

Course Title:	Geographic Data Management and Planning Analysis
Course Code:	CA6241
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:	P6
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites: *(Course Code and Title)*	Nil
Precursors: *(Course Code and Title)*	Nil
Equivalent Courses: *(Course Code and Title)*	Nil
Exclusive Courses: *(Course Code and Title)*	Nil

Part II Course Details

1. Abstract

To understand the Geographic Information Science principles that underlie the development of Geographic Information Systems (GIS) software and its intelligent use; to demonstrate how geographic information systems be applied to tackle problems encountered in geospatial, environmental and land use planning applications; to understand techniques, data sources, and skills for analyzing regions as economic, social, and spatial systems; to introduce systems modeling, benefit-cost analysis, budgetary analysis, decision analysis, and forecasting techniques for analyzing situations that require a planning response.

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.	Discover the Geographic Information Science for land use planning urban demand and asset management etc;		✓		
2.	Apply methods for analyzing situations that require a planning response;		✓		
3.	Discover the techniques for analyzing cities and regions as economic, social, and spatial systems;		✓	✓	
4.	Explore the applications and potentials of GIS in real contexts.		✓	✓	
		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	4	
Lectures and tutorials	On topics and techniques related to specific geographic attributes	✓	✓	✓		
Case studies	In class exercise and a set of applications to complete one case project	✓	✓	✓	✓	

Semester Hours:	3 hours per week
Lecture/Tutorial/Laboratory Mix:	Lecture (2); Tutorial (1); Laboratory (0)

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	4		
Continuous Assessment: 100%						
Mid-term Quiz	✓	✓	✓	✓	30%	
Project/ assignment	✓	✓	✓	✓	70%	
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 in Semester A 2022/23 and thereafter

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Marginal (B-, C+, C)	Failure (F)
Mid-term Quiz	ABILITY to UNDERSTAND basic knowledge about GIS and IDENTIFY key techniques to solve specific issues	High	Significant	Basic	Not even reaching marginal levels
Project/ assignment	ABILITY to ORGANIZE a set of geographic data outputs and PRESENT design/planning products effectively	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)/ Pass (P) on P/F basis	Failure (F)
Mid-term Quiz	ABILITY to UNDERSTAND basic knowledge about GIS and IDENTIFY key techniques to solve specific issues	High	Significant	Moderate	Basic	Not even reaching marginal levels
Project/ assignment	ABILITY to ORGANIZE a set of geographic data outputs and PRESENT design/planning products effectively	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.)

Geographic Information Science principles that underlie the development of Geographic Information Systems (GIS) software and its intelligent use; application of geographic information systems for geospatial, environmental and land use planning applications; techniques, data sources, and skills for analyzing regions as economic, social, and spatial systems; systems modeling, benefit-cost analysis, budgetary analysis, decision analysis, and forecasting techniques for analyzing situations that require a planning response

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

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

1.	Socio-economic applications of geographic information science / editors David Kidner, Gary Higgs and Sean White. London ; New York : Taylor & Francis, 2003, c2002.
2.	Foundations of geographic information science / edited by Matt Duckham, Michael F. Goodchild and Michael F. Worboys. London ; New York : Taylor & Francis, 2003.
3.	GIS, spatial analysis, and modeling / David J. Maguire, Michael Batty, and Michael F. Goodchild, editors. Redlands, Calif. : ESRI Press, 2005.
4.	Planning support systems in practice / Stan Geertman, John Stillwell, editors. Berlin ; New York : Springer, c2003.
5.	Geographic information systems for transportation : principles and applications / Harvey J. Miller, Shih-Lung Shaw. Oxford ; New York : Oxford University Press, 2001.
6.	Karen C. Hanna, R. Brian Culpepper. GIS in site design : new tools for design professionals. New York : Wiley, c1998.