City University of Hong Kong
Course Syllabus

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

Part I   Course Overview

Course Title: **Independent Project for Public Policy and Management**

Course Code: **PIA5603**

Course Duration: **One semester**

Credit Units: **3**

Level: **P5**

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)   **POL5603 Independent Project for Public Policy and Management**

Exclusive Courses:
(Course Code and Title)   **Nil**

Part II   Course Details

1.   **Abstract**

The course is an introductory course to data analytics in public administration and policy analysis. It examines the potential benefits and applications of data analytics such as machine learning, as well as the political, legal, organizational, and ethical challenges of data analytics usage and the professional responsibilities of public administrators in using these tools. The course takes a project-oriented learning approach in covering these topics and introduces applications in R to show how data analytics can be used by public service organizations.

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.	Gain a conceptual understanding of the main tools of data analytics & visualization.		x	x	
2.	Apply tools of data analytics & visualization for policy analysis and/or citizen engagement.		x	x	x
3.	Critically assess the strength and limitations of data analytics in public affairs.		x	x	x
4	Clearly communicate using the spoken and written word, supported by appropriate visualizations.			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	4		
Lecture	Explanation of key concepts, techniques, and application	x	x	x			26 hours/semester
Workshop	Application and discussion of key concepts and techniques, including hands-on in-class exercises and discussion forum	x	x	x	x		13 hours/semester
Four written assignments	The written assignments allow students to actively engage with actual public management or policy questions using the concepts and techniques covered in this course. They require the use of software or other tools introduced in this course. Specific details including page or word limits are provided in the instructions for each assignments.	x	x	x	x		4 hours per assignment
Reading and preparation	Students prepare for class by reviewing assigned readings or other materials provided by the instructor, either in advance of lecture and workshop sessions, or following them.	x	x	x			2 hours per week

4. Assessment Tasks/Activities (ATs)
(ATs are designed to assess how well the students achieve the CILOs.)

Assessment Tasks/Activities	CILO No.					Weighting	Remarks
	1	2	3	4	5		
Continuous Assessment: <u>100</u>%							
Four written assignments	x	x	x	x	x	80%	
Discussion forum	x	x	x	x	x	5%	
Class participation	x	x	x	x	x	15%	
Examination: __0_ % (duration: **N/A** , if applicable)							
						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)
Four written assignments	standard of knowledge of topic or issue being addressed; research, writing and communication skills in meetings and in the final paper	High level of understanding, application, and critical assessment of analytics & visualization; excellent quality of written communication including usage of visualizations	Fairly good level of understanding, application, and critical assessment of analytics & visualization; good quality of written communication including usage of visualizations. Ability to identify key challenges. Good research, writing and communication skills.	Rudimentary level of understanding, application, and critical assessment of analytics & visualization; low quality of written communication including usage of visualizations	Poor level of understanding, application, and critical assessment of analytics & visualization; very low quality of written communication including usage of visualizations	Insufficient level of understanding, application, and critical assessment of analytics & visualization; inadequate quality of written communication including usage of visualizations
Discussion forum Class participation		Excellent quality of contributions to discussion forum and class discussion; excellent quality of oral communication	Fairly good quality of contributions to discussion forum and class discussion; good quality of oral communication	Low quality of contributions to discussion forum and class discussion; low quality of oral communication	Very low quality of contributions to discussion forum and class discussion; very low quality of oral communication	Inadequate quality of contributions to discussion forum and class discussion; inadequate quality of oral communication

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)
Four written assignments	Understanding, application, and critical assessment of analytics & visualization; quality of written communication including usage of visualizations	High level of understanding, application, and critical assessment of analytics & visualization; excellent quality of written communication including usage of visualizations	Fairly good level of understanding, application, and critical assessment of analytics & visualization; good quality of written communication including usage of visualizations	Rudimentary level of understanding, application, and critical assessment of analytics & visualization; low quality of written communication including usage of visualizations	Insufficient level of understanding, application, and critical assessment of analytics & visualization; inadequate quality of written communication including usage of visualizations
Discussion forum Class participation	Quality of contributions to discussion forum and class discussion; quality of oral communication	Excellent quality of contributions to discussion forum and class discussion; excellent quality of oral communication	Fairly good quality of contributions to discussion forum and class discussion; good quality of oral communication	Low quality of contributions to discussion forum and class discussion; low quality of oral communication	Inadequate quality of contributions to discussion forum and class discussion; inadequate quality of oral communication

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.)

    Data analytics and visualization in public administration and policy analysis; smart cities

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.)

    Text(s)
    1. Kabacoff, Robert I. (2011) R in Action. Shelter Island, NY: Manning Publications Co.
    2. Lantz, Brett. (2013) Machine Learning with R. Birmingham, UK: Packt Publishing Ltd.

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