

**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: Statistical Analysis for Public Policy and Management

Course Code: PIA6204

Course Duration: One semester

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) None

Exclusive Courses:
(Course Code and Title) None

Part II Course Details

1. Abstract

This course introduces Master’s students to basic statistical concepts using real-world examples and hands-on exercises. Students will learn the science and art of appreciating the uses of statistics in social science, public policy, management, and everyday life. The course explores topics that include *descriptive statistics* (e.g., mean, standard deviation, variance, correlation, chi-square) to *inferential statistics* (e.g., multiple regression, logistic regression, factor analysis, ANOVA/MANOVA, conjoint analysis), with a particular focus on understanding the conditions under which various statistical techniques may be properly used. Given the importance of computing tools and software for statistical analysis, a portion of the class time will be devoted to helping students become familiar with statistical packages. SPSS will be the main software used in the course while R will also be introduced at some point in the course. At the end of this course, students will 1) be able to interpret statistical findings of various kinds, 2) become a qualified “consumer” of statistics presented in scholarly journals, and 3) prepare themselves for future research/capstone projects with a quantitative component.

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.	Demonstrate a good understanding of major quantitative techniques often used in social sciences research		x	x	
2.	Become conversant with statistical software		x	x	
3.	Interpret and communicate quantitative results to lay readers			x	x
4.	Think critically about statistical data discussed in reports and newspapers		x	x	x
5.	Apply analytical skills learned in the class to solving real problems in workplace				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	5		
Structured seminars/computing lab sessions	Structured seminars/computing lab sessions	x	x	x				
Preparation of materials for discussion in seminars/computing lab sessions	Preparation of materials for discussion in seminars/computing lab sessions	x		x	x			
Individual consultation and inquiry together with teachers	Individual consultation and inquiry together with teachers		x	x		x		
Poster presentation	Assess students' ability to analyse, report and interpret a dataset that involves statistics in a poster presentation format; as well as their digital skills in poster design and visualization.	x		x	x	x		

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: 100 %								
Individual Assignment	x		x		x		40%	Individual work
Poster Presentation, in digital posters, with in-person class presentations in groups, with teachers giving feedback and debriefing	x	x	x		x		50%	Group work (group size will be decided by the course examiner depending on class size)
Class Participation	x	x		x			10%	
Examination: % (duration: , 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-)	Marginal (C+, C, C-)	Marginal (D)	Failure (F)
1. Individual Assignment	Ability to synthesize, critique and offer recommendations to improve a piece of research that uses statistics.	<i>Excellent</i> ability to synthesize, critique and offer recommendations to improve a piece of research that uses statistics.	<i>Good</i> ability to synthesize, critique and offer recommendations to improve a piece of research that uses statistics.	<i>Basic</i> ability to synthesize, critique and offer recommendations to improve a piece of research that uses statistics.	<i>Weak</i> ability to synthesize, critique and offer recommendations to improve a piece of research that uses statistics.	<i>Very weak</i> ability to synthesize, critique and offer recommendations to improve a piece of research that uses statistics.
2. Poster Presentation	Using a poster to demonstrate the ability to analyse, report, and interpret a dataset using statistical tools and concepts covered in the course. Poster design and visuals are an integral part of the digital skills assessment.	<i>Excellent</i> demonstration of the ability to analyse, report, and interpret a dataset using statistical tools and concepts covered in the course. Poster design and visuals demonstrating evidence of <i>excellent</i> digital skills.	<i>Good</i> demonstration of the ability to analyse, report, and interpret a dataset using statistical tools and concepts covered in the course. Poster design and visuals demonstrating evidence of <i>good</i> digital skills.	<i>Basic</i> demonstration of the ability to analyse, report, and interpret a dataset using statistical tools and concepts covered in the course. Poster design and visuals demonstrating evidence of <i>basic</i> digital skills.	<i>Weak</i> demonstration of the ability to analyse, report, and interpret a dataset using statistical tools and concepts covered in the course. Poster design and visuals demonstrating evidence of <i>weak</i> digital skills.	<i>Very weak</i> demonstration of the ability to analyse, report, and interpret a dataset using statistical tools and concepts covered in the course. Poster design and visuals demonstrating evidence of <i>very weak</i> digital skills.
3. Class Participation	Level and depth of class participation during thirteen weeks of the course.	An <i>excellent</i> level and depth of class participation during the thirteen weeks of the course.	A <i>good</i> level and depth of class participation during the thirteen weeks of the course.	A <i>basic</i> level and depth of class participation during the thirteen weeks of the course.	A <i>weak</i> level and depth of class participation during the thirteen weeks of the course.	A very weak level and depth of class participation during the 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)
1. Individual Assignment	Ability to synthesize, critique and offer recommendations to improve a piece of research that uses statistics.	<i>Excellent</i> ability to synthesize, critique and offer recommendations to improve a piece of research that uses statistics.	<i>Good</i> ability to synthesize, critique and offer recommendations to improve a piece of research that uses statistics.	<i>Basic</i> to weak ability to synthesize, critique and offer recommendations to improve a piece of research that uses statistics.	<i>Very weak</i> ability to synthesize, critique and offer recommendations to improve a piece of research that uses statistics.
2. Poster Presentation	Using a poster to demonstrate the ability to analyse, report, and interpret a dataset using statistical tools and concepts covered in the course. Poster design and visuals are an integral part of the digital skills assessment.	<i>Excellent</i> demonstration of the ability to analyse, report, and interpret a dataset using statistical tools and concepts covered in the course. Poster design and visuals demonstrating evidence of <i>excellent</i> digital skills.	<i>Good</i> demonstration of the ability to analyse, report, and interpret a dataset using statistical tools and concepts covered in the course. Poster design and visuals demonstrating evidence of <i>good</i> digital skills.	<i>Basic</i> to <i>weak</i> demonstration of the ability to analyse, report, and interpret a dataset using statistical tools and concepts covered in the course. Poster design and visuals demonstrating evidence of <i>basic</i> digital skills.	<i>Very weak</i> demonstration of the ability to analyse, report, and interpret a dataset using statistical tools and concepts covered in the course. Poster design and visuals demonstrating evidence of <i>very weak</i> digital skills.
3. Class Participation	Level and depth of class participation during thirteen weeks of the course.	An <i>excellent</i> level and depth of class participation during the thirteen weeks of the course.	A <i>good</i> level and depth of class participation during the thirteen weeks of the course.	A <i>basic</i> to <i>weak</i> level and depth of class participation during the thirteen weeks of the course.	A very weak level and depth of class participation during the 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.)

Descriptive Statistics; Basic Concepts of Multivariate Analysis; Hypotheses Testing; Factor Analysis; Bivariate Regression and Multiple Regression; Analysis of Variance (ANOVA); Multivariate Analysis of Variance (MANOVA), and Conjoint Analysis.

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.	Field, Andy (2017). <i>Discovering Statistics Using IBM SPSS Statistics: North American Edition</i> . 5 th Edition. Sage Publications.
2.	Sheridan, Coakes. (2013). <i>SPSS: Analysis Without Anguish: Version 20.0 for Windows</i> . John Wiley and Sons.
3.	Andy Field, Jeremy Miles, Zoë Field. (2012). <i>Discovering Statistics using R</i> . Sage.

2.2 Additional Readings

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

1.	Babbie, Earl R. 2010. <i>The Practice of Social Research</i> . Belmont, Calif: Wadsworth Cengage.
2.	Wang, Xiaohu, 2010, <i>Performance Analysis for Public and Nonprofit Organizations</i> . Jones and Bartlett Publishers
3.	Berry, W. D. (1993). <i>Understanding Regression Assumptions: Series Quantitative Applications in the Social Sciences</i> . Thousand Oaks.
4.	Cohen, J., Cohen, P., West, S., & Aiken, L. (2002). <i>Applied Multiple Regression/Correlation for Behavioral Sciences</i> . (3rd ed.). New York: Lawrence Erlbaum Associates
5.	SPSS Conjoint 17.0. https://www.sussex.ac.uk/its/pdfs/SPSS_Conjoint_17.0.pdf