

**City University of Hong Kong  
Course Syllabus**

**offered by Department of Linguistics and Translation  
with effect from Semester A 2024 / 25**

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**Part I Course Overview**

<b>Course Title:</b>	<u>Quantitative Methods for Linguistic Data Analysis</u>
<b>Course Code:</b>	<u>LT5423</u>
<b>Course Duration:</b>	<u>One semester</u>
<b>Credit Units:</b>	<u>3</u>
<b>Level:</b>	<u>P5</u>
<b>Medium of Instruction:</b>	<u>English</u>
<b>Medium of Assessment:</b>	<u>English</u>
<b>Prerequisites:</b> <i>(Course Code and Title)</i>	<u>Nil</u>
<b>Precursors:</b> <i>(Course Code and Title)</i>	<u>Nil</u>
<b>Equivalent Courses:</b> <i>(Course Code and Title)</i>	<u>Nil</u>
<b>Exclusive Courses:</b> <i>(Course Code and Title)</i>	<u>Nil</u>

## Part II Course Details

### 1. Abstract

This is an introductory course which highlights some of the basic and yet most widely used statistical measures for linguistic analysis. In particular, this course will introduce quantitative notions about corpus data and explain how such data can be statistically described, analysed and tested. The students will be required to be able to apply the quantitative methods to perform statistical analysis of linguistic data.

### 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.	Recognize the importance of a quantitative approach the study of human language.	20%	✓	✓	✓
2	Explain the quantitative underpinnings of language on the one hand and of the multifaceted linguistic form on the other.	20%	✓	✓	✓
3.	Reflect critically on the complex relations between language and language use via discovering and identifying the quantifiable aspects of language.	20%	✓	✓	✓
4.	Conduct and critique quantitative analysis of linguistic data.	20%	✓	✓	✓
5.	Hypothesize and formulate generalizations about human language based on quantitative observations and analysis.	20%	✓	✓	✓
		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. 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		
1	Lectures: Presentation and explanation of basic theories and methods	✓	✓	✓	✓	✓		
2	Tutorials: Exercises, group discussions and presentations	✓	✓	✓	✓	✓		

### 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: 50%								
One presentation	✓	✓	✓	✓	✓		10%	
One assignment	✓	✓	✓	✓	✓		30%	
One quiz	✓	✓	✓	✓	✓		10%	
Examination: 50% (duration: 2 hours)								
							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)
1. Oral Presentation (10%)	Demonstration of understanding basic concepts Demonstration of ability to apply basic concepts	1) comprehensive understanding of the course contents and being able to apply the contents; 2) Demonstrating accurate and <i>critique</i> analysis on linguistic instances; 3) writing format is appropriate in an academic style and standard;	1) comprehensive understanding of the course contents; 2) demonstrating accurate analysis on linguistic instances; 3) writing format is appropriate in an academic style and standard;	1) moderate or limited understanding on topics and contents of the course; 2) demonstrating basic ability to analyze linguistic instances; 3) appropriate format in the writing, but writing content merely shows some understanding of the differences between academic and non-academic style of writing and put that understanding to practice;	1) little understanding on topics and contents of the course; 2) insufficient knowledge on course contents; 3) inappropriate writing style and format for academic paper;	1) no understanding on topics and contents of the course; 2) incorrect knowledge on course contents; 3) inappropriate writing style and format for academic paper;

<p>2. Assignment (30%)</p>	<p>Demonstration of understanding basic concepts          Demonstration of ability to apply basic concepts</p>	<p>1) comprehensive understanding of the course contents and being able to apply the contents;          2) Demonstrating accurate and <i>critique</i> analysis on linguistic instances;          3) writing format is appropriate in an academic style and standard;</p>	<p>1) comprehensive understanding of the course contents;          2) demonstrating accurate analysis on linguistic instances;          3) writing format is appropriate in an academic style and standard;</p>	<p>1) moderate or limited understanding on topics and contents of the course;          2) demonstrating basic ability to analyze linguistic instances;          3) appropriate format in the writing, but writing content merely shows some understanding of the differences between academic and non-academic style of writing and put that understanding to practice;</p>	<p>1) little understanding on topics and contents of the course;          2) insufficient knowledge on course contents;          3) inappropriate writing style and format for academic paper;</p>	<p>1) no understanding on topics and contents of the course;          2) incorrect knowledge on course contents;          3) inappropriate writing style and format for academic paper;</p>
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3. Quiz (10%)	<p>Demonstration of understanding basic concepts</p> <p>Demonstration of ability to apply basic concepts</p>	<p>1) comprehensive understanding of the course contents and being able to apply the contents;</p> <p>2) Demonstrating accurate and <i>critique</i> analysis on linguistic instances;</p> <p>3) writing format is appropriate in an academic style and standard;</p>	<p>1) comprehensive understanding of the course contents;</p> <p>2) demonstrating accurate analysis on linguistic instances;</p> <p>3) writing format is appropriate in an academic style and standard;</p>	<p>1) moderate or limited understanding on topics and contents of the course;</p> <p>2) demonstrating basic ability to analyze linguistic instances;</p> <p>3) appropriate format in the writing, but writing content merely shows some understanding of the differences between academic and non-academic style of writing and put that understanding to practice;</p>	<p>1) little understanding on topics and contents of the course;</p> <p>2) insufficient knowledge on course contents;</p> <p>3) inappropriate writing style and format for academic paper;</p>	<p>1) no understanding on topics and contents of the course;</p> <p>2) incorrect knowledge on course contents;</p> <p>3) inappropriate writing style and format for academic paper;</p>
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<p>4. Examination (50%)</p>	<p>Same as Coursework but under time constraint</p>	<p>1) accurate and clear answers to question;</p> <p>2) demonstrating integrative and comprehensive understanding from question answers;</p> <p>3) strategic use of ideas and information from referenced articles, course handouts and other sources;</p> <p>4) argumentation strategies and contents are logic, excellent and substantiated;</p> <p>5) excellent command of the English language;</p>	<p>1) accurate and clear answers to question;</p> <p>2) accurate and clear understanding on specific terms taught in the course;</p> <p>3) good use of ideas and information from referenced articles, course handouts and other sources;</p> <p>4) accurate and precise analysis on behavioral data of languages;</p> <p>5) argumentation strategies and contents are logic, good and substantiated;</p> <p>6) good command of the English language</p>	<p>1) accurate and yet insufficient answers to questions;</p> <p>2) appropriate and yet limited understanding on specific terms taught in the course;</p> <p>3) good summary of ideas and information from referenced articles, course handouts and other sources;</p> <p>4) accurate and yet unspecified analysis on the behavioral data of language;</p> <p>5) argumentation strategies and contents are logic but merely appropriate;</p> <p>6) adequate command of the English language</p>	<p>1) very limited critical answers to questions;</p> <p>2) little understanding on specific terms taught in the course;</p> <p>3) unclear answers due to mere collection of ideas and information from referenced articles, course handouts and other sources;</p> <p>4) inadequate analysis behavioral data of language;</p> <p>5) poor argumentations;</p> <p>6) poor command of English</p>	<p>1) inappropriate critical answers to questions;</p> <p>2) insufficient understanding on specific terms taught in the course;</p> <p>3) incorrect answers</p> <p>4) incorrect analysis of behavioral data of language;</p> <p>5) inappropriate argumentations;</p> <p>6) poor or little command of English</p>
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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)
1. Oral Presentation (10%)	Demonstration of understanding basic concepts Demonstration of ability to apply basic concepts	1) comprehensive understanding of the course contents and being able to apply the contents;  2) Demonstrating accurate and <i>critique</i> analysis on linguistic instances;  3) writing format is appropriate in an academic style and standard;	1) comprehensive understanding of the course contents;  2) demonstrating accurate analysis on linguistic instances;  3) writing format is appropriate in an academic style and standard;	1) moderate or limited understanding on topics and contents of the course;  2) demonstrating basic ability to analyze linguistic instances;  3) appropriate format in the writing, but writing content merely shows some understanding of the differences between academic and non-academic style of writing and put that understanding to practice;	1) little understanding on topics and contents of the course;  2) insufficient knowledge on course contents;  3) inappropriate writing style and format for academic paper;



<p>2. Assignment (30%)</p>	<p>Demonstration of understanding basic concepts          Demonstration of ability to apply basic concepts</p>	<p>1) comprehensive understanding of the course contents and being able to apply the contents;          2) Demonstrating accurate and <i>critique</i> analysis on linguistic instances;          3) writing format is appropriate in an academic style and standard;</p>	<p>1) comprehensive understanding of the course contents;          2) demonstrating accurate analysis on linguistic instances;          3) writing format is appropriate in an academic style and standard;</p>	<p>1) moderate or limited understanding on topics and contents of the course;          2) demonstrating basic ability to analyze linguistic instances;          3) appropriate format in the writing, but writing content merely shows some understanding of the differences between academic and non-academic style of writing and put that understanding to practice;</p>	<p>1) little understanding on topics and contents of the course;          2) insufficient knowledge on course contents;          3) inappropriate writing style and format for academic paper;</p>
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<p>3. Quiz (10%)</p>	<p>Demonstration of understanding basic concepts Demonstration of ability to apply basic concepts</p>	<p>1) comprehensive understanding of the course contents and being able to apply the contents; 2) Demonstrating accurate and <i>critique</i> analysis on linguistic instances; 3) writing format is appropriate in an academic style and standard;</p>	<p>1) comprehensive understanding of the course contents; 2) demonstrating accurate analysis on linguistic instances; 3) writing format is appropriate in an academic style and standard;</p>	<p>1) moderate or limited understanding on topics and contents of the course; 2) demonstrating basic ability to analyze linguistic instances; 3) appropriate format in the writing, but writing content merely shows some understanding of the differences between academic and non-academic style of writing and put that understanding to practice;</p>	<p>1) little understanding on topics and contents of the course; 2) insufficient knowledge on course contents; 3) inappropriate writing style and format for academic paper;</p>
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<p>4. Examination (50%)</p>	<p>Same as Coursework but under time constraint</p>	<p>1) accurate and clear answers to question;</p> <p>2) demonstrating integrative and comprehensive understanding from question answers;</p> <p>3) strategic use of ideas and information from referenced articles, course handouts and other sources;</p> <p>4) argumentation strategies and contents are logic, excellent and substantiated;</p> <p>5) excellent command of the English language;</p>	<p>1) accurate and clear answers to question;</p> <p>2) accurate and clear understanding on specific terms taught in the course;</p> <p>3) good use of ideas and information from referenced articles, course handouts and other sources;</p> <p>4) accurate and precise analysis on behavioral data of languages;</p> <p>5) argumentation strategies and contents are logic, good and substantiated;</p> <p>6) good command of the English language</p>	<p>1) accurate and yet insufficient answers to questions;</p> <p>2) appropriate and yet limited understanding on specific terms taught in the course;</p> <p>3) good summary of ideas and information from referenced articles, course handouts and other sources;</p> <p>4) accurate and yet unspecified analysis on the behavioral data of language;</p> <p>5) argumentation strategies and contents are logic but merely appropriate;</p> <p>6) adequate command of the English language</p>	<p>1) very limited critical answers to questions;</p> <p>2) little understanding on specific terms taught in the course;</p> <p>3) unclear answers due to mere collection of ideas and information from referenced articles, course handouts and other sources;</p> <p>4) inadequate analysis behavioral data of language;</p> <p>5) poor argumentations;</p> <p>6) poor command of English</p>
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### 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.)

types, tokens and word frequencies; concordance, collocations, and word co-occurrences; variance and central tendency; group scores, correlations; corpus annotation, inter-subject agreement; clustering methods for finding structure in data.

#### 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.	Oakes, Michael. 1998. <i>Statistics for Corpus Linguistics</i> . Edinburgh: Edinburgh University Press.
2.	Heiman, Gary W. 2014. <i>Basic Statistics for the Behavioral Sciences</i> . Cengage Learning.

##### 2.2 Additional Readings

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

1.	Baayen, R.H. 2008. <i>Analyzing Linguistic Data: A Practical Introduction to Statistics using R</i> . Cambridge: Cambridge University Press.
2.	Gries, Stefan. 2009. <i>Quantitative Corpus Linguistics with R: A Practical Introduction</i> . London: Routledge.
3.	Butler, Christopher. 1985. <i>Statistics in Linguistics</i> . Oxford: Blackwell.