

**City University of Hong Kong**  
**Course Syllabus**

**offered by Department of Linguistics and Translation**  
**with effect from Semester B 2022/23**

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**Part I Course Overview**

**Course Title:** Topics in Neurolinguistics and Psycholinguistics

**Course Code:** LT4256

**Course Duration:** One Semester

**Credit Units:** 3

**Level:** B4

**Proposed Area:**  Arts and Humanities  
 Study of Societies, Social and Business Organisations  
 Science and Technology

**Medium of Instruction:** English

**Medium of Assessment:** English

**Prerequisites:**  
*(Course Code and Title)* LT2204 Language and Mind or LT3234 Language and Cognition

**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

(A 150-word description about the course)

With the use of new behavioural and brain imaging techniques, many new insights into the cognitive and neural processes underlying language comprehension, production, and acquisition have been established. This course aims to provide a comprehensive overview of the cognitive and neural processes that are critical for the comprehension and production of language, and the influence of language disorders on those processes. It also aims to help students develop an understanding of the state-of-the-art developments in the neurolinguistic and psycholinguistic fields. Electrophysiological techniques will be introduced to examine individual differences in language learning and processing. This course aims to let students have a clear understanding of how languages are learned and processed from the neurocognitive perspective. Different theoretical approaches to language learning and processing will be contrasted. Some hands-on practices of conducting a small scale research will be provided.

### 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 <sup>#</sup>	Weighting* (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick ✓ where appropriate)		
			A1	A2	A3
1.	Understand the major theoretical frameworks adopted in neurolinguistic and psycholinguistic research;		✓	✓	
2.	Analyse the individual variables in language learning and processing;		✓	✓	
3.	Compare and contrast different psychological approaches to language learning and processing		✓	✓	✓
4.	Critically review the psychological and neural processes underlying language comprehension, production and learning.		✓	✓	✓
5.	Introduce electrophysiological techniques to examine language processing and learning in different populations;		✓	✓	✓
6.	Design and conduct a study to test language comprehension, language processing or language learning theories by using electrophysiological or behavioural techniques.		✓	✓	✓
		100%			

\* If weighting is assigned to CILOs, they should add up to 100%.

<sup>#</sup> Please specify the alignment of CILOs to the Gateway Education Programme Intended Learning outcomes (PILOs) in Section A of Annex.

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	5	6	
1	<b>Readings -</b> Read book chapters and research articles assigned weekly	✓	✓	✓	✓	✓	✓	
2	<b>Lectures -</b> Theories, concepts, explanations, illustrations, synthesis of readings, in-class activities	✓	✓	✓	✓	✓		
3	<b>Class activities -</b> Answer designed questions, participate in group discussion and problem solving activities, summarize and present research articles	✓	✓	✓	✓	✓	✓	
4	<b>Mid-term Quiz –</b> A quiz is arranged at the middle of the semester. Multiple-choice question and short essays will be set to assess students' mastery of key concepts, models and theories, and to evaluate their ability to analyse language phenomena	✓	✓	✓	✓	✓		
5	<b>Project -</b> The project requires students to come up with a specific question in relation to language learning or processing, apply the concepts and theories they have learnt to design the study.	✓	✓	✓	✓	✓	✓	
6	<b>Term paper –</b> The report should include a review of some key references related to the topic chosen by the group, the design of the study, the preliminary results collected.	✓	✓	✓	✓	✓	✓	

#### 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	6		
<b>Continuous Assessment: 100%</b>								
<b>Class activities</b> Activities are designed to enable students to apply the neurolinguistic or psycholinguistic concepts, theories or models taught in class to solve problem or analyse data. Tutorial assignments require students to read research articles before class, and to identify research objectives, research design and findings in class.	✓	✓	✓	✓	✓	✓	20%	
<b>Mid-term Quiz (2 hours)</b> Interpreting neurolinguistic and psycholinguistic phenomenon with specialized terms and concepts. Checking acquired knowledge by judging key differences among key concepts, models and theories. Developing critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.	✓	✓	✓	✓	✓		25%	
<b>Project</b> The project requires students to design and conduct a study in relation to language comprehension, language processing, or language learning, apply the concepts and theories they have learnt to analyse the results. Students are required to give an oral report of their project.	✓	✓	✓	✓	✓	✓	25%	The project will be done by group with no more than four students.
<b>Term paper</b> Students are required to write up a term paper about the logic, design and empirical findings of their project. Applied the learned concepts in interpreting the results. Developing critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.	✓	✓	✓	✓	✓	✓	30%	The written report of the project (term paper) is about 3,500 to 4,000 words.
<b>Examination: 0%</b>								
							100%	

\* The weightings should add up to 100%.

## 5. Assessment Rubrics

(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
<b>1. Class activities</b>	Knowledge application, Critical thinking and problem solving	Excellent application of the concepts, theories or models taught in class to analyse data or solve problem.  Demonstration of excellent abilities of critical thinking and problem solving	Good application of the concepts, theories or models taught in class to analyse data or solve problem.  Demonstration of good abilities of critical thinking and problem solving	Satisfactory application of the concepts, theories or models taught in class to analyse data or solve problem.  Demonstration of average abilities of critical thinking and problem solving	Unsatisfactory application of the concepts, theories or models taught in class to analyse data or solve problem.  Demonstration of below-average abilities of critical thinking and problem solving	Incorrect application of the concepts, theories or models taught in class to analyse data or solve problem.  Demonstration of low abilities of critical thinking and problem solving
<b>2. Mid-term Quiz (2 hours)</b>	Interpreting neurolinguistic and psycholinguistic phenomenon with specialized terms and concepts.  Developing critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.	Excellent interpretation of neurolinguistic and psycholinguistic phenomenon with specialized terms and concepts.  Excellent development of critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.	Good interpretation of neurolinguistic and psycholinguistic phenomenon with specialized terms and concepts.  Good development of critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.	Satisfactory interpretation of neurolinguistic and psycholinguistic phenomenon with specialized terms and concepts.  Satisfactory development of critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.	Unsatisfactory interpretation of neurolinguistic and psycholinguistic phenomenon with specialized terms and concepts.  Unsatisfactory development of critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.	Poor interpretation of neurolinguistic and psycholinguistic phenomenon with specialized terms and concepts.  Poor development of critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.
<b>3. Project</b>	Experimental design of the study  Clarity of the oral presentation	Excellent theory-driven and scientific based design of the study	Good theory-driven and scientific based design of the study  Good clarity of the	Satisfactory theory-driven and scientific based design of the study	Unsatisfactory theory-driven and scientific based design of the study	Poor theory-driven and scientific based design of the study  Poor clarity of the oral

		Excellent clarity of the oral presentation	oral presentation	Satisfactory clarity of the oral presentation	Unsatisfactory clarity of the oral presentation	presentation
<b>4. Term paper</b>	<p>Developing critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.</p> <p>Logic and relevancy of the literature review</p> <p>Interpreting neurolinguistic or psycholinguistic effects with specialized terms and concepts.</p>	<p>Excellent development of critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.</p> <p>Excellent literature review</p> <p>Excellent interpretation of neurolinguistic or psycholinguistic effects with specialized terms and concepts.</p>	<p>Good development of critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.</p> <p>Good literature review</p> <p>Good interpretation of neurolinguistic or psycholinguistic effects with specialized terms and concepts.</p>	<p>Satisfactory development of critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.</p> <p>Satisfactory literature review</p> <p>Satisfactory interpretation of neurolinguistic or psycholinguistic effects with specialized terms and concepts.</p>	<p>Unsatisfactory development of critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.</p> <p>Unsatisfactory literature review</p> <p>Unsatisfactory interpretation of neurolinguistic or psycholinguistic effects with specialized terms and concepts.</p>	<p>Poor development of critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.</p> <p>Poor literature review</p> <p>Poor interpretation of neurolinguistic or psycholinguistic effects with specialized terms and concepts.</p>

### **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.)*

Cognitive Neuroscience of Language, language acquisition, brain lateralization, hemispheric differences, individual differences in language

#### **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.)*

Gazzaniga, M. S., and Mangun, G. R. (2014). *The Cognitive Neurosciences*. 5th Edn. Cambridge, Massachusetts: The MIT Press.

Stemmer, B., and Whitaker, H. A. (2008). *Handbook of the Neuroscience of Language*. London; Burlington, MA: Academic/Elsevier.

Raymer, A. M., and Gonzalez Rothi, L. J. (2017). *The Oxford Handbook of Aphasia and Language Disorders*. Oxford University Press.

Harley, T.A. (2014) *The Psychology of Language: From Data to Theory*. 4<sup>th</sup> edition. Hove, East Sussex; New York: Psychology Press.

Carroll, D.W. (2008) *Psychology of Language*. 5th edition. Belmont, California: Wadsworth/ Thomson Learning.

##### **2.2 Additional Readings**

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

Indefrey, P. & Levelt, W. J. M. (2004). The spatial and temporal signatures of word production components. *Cognition*, 92(1–2), 101–144.

Steve J. Luck (2005) *An Introduction to the Event-related Potential Technique*. MIT press

Kuhl, P.K., (2006). Infants show a facilitation effect for native language phonetic perception between 6 and 12 months. *Developmental Science*, 9, F13-F21

Luk, G., Bialystok, E., Craik, F. I. M., & Grady, C. L. (2011). Lifelong bilingualism maintains white matter integrity in older adults. *Journal of Neuroscience*, 31 (46), 16808–16813.

Mechelli, A., Crinion, J. T., Noppeney, U., O'Doherty, J., Ashburner, J. Frackowiak, R. S. & Price, C. J. (2004). Neurolinguistics: structural plasticity in the bilingual brain. *Nature*, 431, 757.