

LT4256: TOPICS IN NEUROLINGUISTICS AND PSYCHOLINGUISTICS

Effective Term

Semester A 2023/24

Part I Course Overview

Course Title

Topics in Neurolinguistics and Psycholinguistics

Subject Code

LT - Linguistics and Translation

Course Number

4256

Academic Unit

Linguistics and Translation (LT)

College/School

College of Liberal Arts and Social Sciences (CH)

Course Duration

One Semester

Credit Units

3

Level

B1, B2, B3, B4 - Bachelor's Degree

Medium of Instruction

English

Medium of Assessment

English

Prerequisites

LT2204 Language and Mind or LT3234 Language and Cognition

Precursors

Nil

Equivalent Courses

Nil

Exclusive Courses

Nil

Part II Course Details

Abstract

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. Neuroimaging methods such as 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.

Course Intended Learning Outcomes (CILOs)

CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Understand the major theoretical frameworks adopted in neurolinguistic and psycholinguistic research;	x	x	
2	Analyse the individual variables in language learning and processing;	x	x	
3	Compare and contrast different psychological approaches to language learning and processing	x	x	x
4	Critically review the psychological and neural processes underlying language comprehension, production and learning.	x	x	x
5	Introduce electrophysiological techniques to examine language processing and learning in different populations;	x	x	x
6	Design and conduct a study to test language comprehension, language processing or language learning theories by using electrophysiological or behavioural techniques.	x	x	x

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.

Teaching and Learning Activities (TLAs)

TLAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Readings	Read book chapters and research articles assigned weekly	1, 2, 3, 4, 5, 6

2	Lectures	Theories, concepts, explanations, illustrations, synthesis of readings, in-class activities	1, 2, 3, 4, 5	
3	Group assignments	Answer designed questions, participate in group discussion and problem solving activities, summarize and present research articles	1, 2, 3, 4, 5, 6	
4	Mid-term Quiz	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	1, 2, 3, 4, 5	
5	Project	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.	1, 2, 3, 4, 5, 6	
6	Term paper	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.	1, 2, 3, 4, 5, 6	

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Group assignments Group assignments are designed to enable students to apply the neurolinguistic or psycholinguistic concepts, theories or models taught in class to solve problem or analyse data.	1, 2, 3, 4, 5, 6	20	

2	Mid-term Quiz (2 hours) 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.	1, 2, 3, 4, 5	20	
3	Project 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.	1, 2, 3, 4, 5, 6	20	
4	Term paper 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.	1, 2, 3, 4, 5, 6	40	

Continuous Assessment (%)

100

Examination (%)

0

Assessment Rubrics (AR)

Assessment Task

1. Group assignment

Criterion

Knowledge application, Critical thinking and problem solving

Excellent (A+, A, A-)

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 (B+, B, B-)

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

Fair (C+, C, C-)

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

Marginal (D)

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

Failure (F)

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

Assessment Task

2. Mid-term Quiz (2 hours)

Criterion

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 (A+, A, A-)

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 (B+, B, B-)

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.

Fair (C+, C, C-)

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.

Marginal (D)

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.

Failure (F)

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.

Assessment Task

3. Project

Criterion

Experimental design of the study
Clarity of the oral presentation

Excellent (A+, A, A-)

Excellent theory-driven and scientific based design of the study Excellent clarity of the oral presentation

Good (B+, B, B-)

Good theory-driven and scientific based design of the study Good clarity of the oral presentation

Fair (C+, C, C-)

Satisfactory theory-driven and scientific based design of the study Satisfactory clarity of the oral presentation

Marginal (D)

Unsatisfactory theory-driven and scientific based design of the study Unsatisfactory clarity of the oral presentation

Failure (F)

Poor theory-driven and scientific based design of the study Poor clarity of the oral presentation

Assessment Task

4. Term paper

Criterion

Developing critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.

Logic and relevancy of the literature review

Interpreting neurolinguistic or psycholinguistic effects with specialized terms and concepts.

Excellent (A+, A, A-)

Excellent development of critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.

Excellent literature review

Excellent interpretation of neurolinguistic or psycholinguistic effects with specialized terms and concepts.

Good (B+, B, B-)

Good development of critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.

Good literature review

Good interpretation of neurolinguistic or psycholinguistic effects with specialized terms and concepts.

Fair (C+, C, C-)

Satisfactory development of critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.

Satisfactory literature review

Satisfactory interpretation of neurolinguistic or psycholinguistic effects with specialized terms and concepts.

Marginal (D)

Unsatisfactory development of critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.

Unsatisfactory literature review

Unsatisfactory interpretation of neurolinguistic or psycholinguistic effects with specialized terms and concepts.

Failure (F)

Poor development of critical thinking via recognizing and identifying similarities/differences among key concepts, models and theories.

Poor literature review

Poor interpretation of neurolinguistic or psycholinguistic effects with specialized terms and concepts.

Part III Other Information

Keyword Syllabus

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

Reading List

Compulsory Readings

Title	
1	Gazzaniga, M. S., and Mangun, G. R. (2014). <i>The Cognitive Neurosciences</i> . 5th Edn. Cambridge, Massachusetts: The MIT Press.
2	Stemmer, B., and Whitaker, H. A. (2008). <i>Handbook of the Neuroscience of Language</i> . London; Burlington, MA: Academic/Elsevier.
3	Raymer, A. M., and Gonzalez Rothi, L. J. (2017). <i>The Oxford Handbook of Aphasia and Language Disorders</i> . Oxford University Press.
4	Harley, T.A. (2014) <i>The Psychology of Language: From Data to Theory</i> . 4th edition. Hove, East Sussex; New York: Psychology Press.
5	Carroll, D.W. (2008) <i>Psychology of Language</i> . 5th edition. Belmont, California: Wadsworth/ Thomson Learning.
6	Kemmerer, D. (2023) <i>Cognitive Neuroscience of Language: 2nd Edition</i> . New York: Routledge.

Additional Readings

Title	
1	Indefrey, P. & Levelt, W. J. M. (2004). The spatial and temporal signatures of word production components. <i>Cognition</i> , 92(1-2), 101-144.
2	Steve J. Luck (2005) <i>An Introduction to the Event-related Potential Technique</i> . MIT press
3	Kuhl, P.K., (2006). Infants show a facilitation effect for native language phonetic perception between 6 and 12 months. <i>Developmental Science</i> , 9, F13-F21
4	Luk, G., Bialystok, E., Craik, F. I. M., & Grady, C. L. (2011). Lifelong bilingualism maintains white matter integrity in older adults. <i>Journal of Neuroscience</i> , 31 (46), 16808-16813.
5	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. <i>Nature</i> , 431, 757.