Course unit title	Code
Introduction to Cognitive Neuroscience/Įvadas į kognityvinį neuromokslą	

Lecturer(s)	Department(s)
Dr. Jelena Kirejeva	Faculty of Philology

Cycle	Type of the course unit
BA	

Mode of delivery	Period of delivery	Language of instruction
Seminars	Semester	English

Requirements for students	
Prerequisites: **Courses in**:	**Additional requirements (if any):** English B2-C1

Course (module) volume in credits	Total student's workload	Contact hours	Self-study hours
5	**150**	**32**	**118**

Aim of course (module): competences developed by the study programme

The course focuses on the underlying neural mechanisms of human behaviour and cognition, with particular attention being paid to the relation between language and the function of the nervous system, i.e. the neural mechanisms in the brain that underlie language comprehension and production. The course aims at acquainting students with Eye-tracking and EEG as the powerful tools in the fields of neuroscience, psychology and cognitive sciences applied to unlock new insights into the human mind.
The course is designed: 1) to help students to explore the potential of Eye-tracking and EEG technologies to the study of language (e.g., discovering differences between the monolingual and bilingual brains, investigating affect-language interaction in non-native speakers, etc.); 2) to raise learners' awareness of the fact that Eye-tracking and EEG experiments can be extremely benefitial for the study of language.

Learning outcomes of the course (module)	Teaching and learning methods	Assessment methods
Generic Learning Outcomes: – the acquisition and/or development of the following transferable skills: communication, active listening, problem-solving, critical thinking, logical reasoning, independent research and argumentation, data collection and analysis, conscious thinking, collaboration.	the combination of a *Task-Based* Approach, a *Flipped Classroom* Approach and a *Case Study* method	The course can be passed through continuous assessment, which is complemented by two synthesis tests (a midterm test – 40 %, a final test – 40 %, and a presentation – 20 %,), whose marks comprise the cumulative examination mark.
Subject Learning Outcomes:	the accomplishment of the following tasks and activities: – lectures and group assignments; – classroom polling; – Q&A sessions; – listing and/or brainstorming; – collaborative discussions based on the materials covered indiviadually at home and in class (teacher-led);	
– the acquisition of the knowledge of the origins of cognitive neuroscience, the analytical toolkit as well as the latest developments in the field by getting acquainted with the key concepts, seminal works and state-of-the-art technologies applied in language research;		

– the acquisition of students‘ literary analysis skills, i.e. the ability to excercise their critical thinking skills in interpreting a text within a cognitive neurscientific framework, the ability to substantiate their interpretations through well-reasoned arguments.	– collaborative problem-solving (teacher-led); – digital research; – readings; – the use of digital resources both as synchronous and asynchronous learning materials; – reflection assignments.	

Topics	**Contact work hours**							**Time and tasks of self-study**	
	Lectures	Consultations	Seminars	Practice	Laboratory work	Practical training	**Total contact hours**	**Independent work**	**Assignments**
1. Introduction: Cognitive neuroscience as the scientific study of the biological mechanisms and neural processes that underlie mental functions, such as perception, memory, language and decision-making.	2						2		Lecture materials to be accessed through VMA;
2. Eye-tracking and EEG (electroencephalography) technologies as powerful tools in neuroscience: application, potential, equipment.	2		3				5		Reading list: lecture materials to be accessed through VMA
3. Neurolinguistics, applied linguistics and eye-tracking. Introduction to eye-tracking. An eye-tracking experiment in detail: *saccades*, *fixations*, *gaze duration*, etc.	2		2				4		Reading list: Carrol, G. Conklin, K. and A. Pellicer-Sanchez. (2019). *Eye-Tracking: A guide for applied Linguistics Research; pp. 1-13.*
4. An eye-tracking experiment: researching reading (e.g., word recognition and integration in reading; the processing of new words, etc.). Case study: assessing translation accessibility.	2		2				4		Reading list: Kasperė, R. et al. (2023). Is machine translation a dim technology for its users? An eye-tracking study. Frontiers in Psychology. DOI 10.3389/fpsyg.2023.1076379
5. An eye-tracking experiment: researching emotions. Circumplex Model of Affects: measuring *arousal* and *valence*.	2		2				4		Reading List: Alcaniz, M. (2023). Exploring the Potential of Eye-tracking Technology for Emotion Recognition: a Preliminary Investigation, Conference: 2023 IEEE International Conference on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering (MetroXRAINE)
6. An EEG experiment: affect-language interface (studying neurophysiological responses to affective words in sentence context).	2		3				5		Reading List: Jończyk, R. (2016). *Affect-Language Interactions in Native and Non-Native English Speakers. A Neuropragmatic Perspective;* pp.57-71.
7. An EEG experiment: affective word processing in native and non-native English speakers.	2		2				4		Reading List: Jończyk, R. (2016). *Affect-Language Interactions in Native and Non-Native English Speakers. A Neuropragmatic Perspective;* pp. 103-127.

8. Visiting an eye-tracking laboratory at the Faculty of Philology.	2						2		
9. Round-up discussion. Revision. Note. The main reading texts (lists) will be uploaded on the VMA platform. The teacher has the discretion to modify the reading texts as needed.			2				2		Reading List: Revision materials to be accessed through VMA
Total: 150	**16**		**16**				**32**	**118**	

Assessment strategy	**Weight (%)**	**Deadline**	**Assessment criteria**
Midterm test	**40 %**	The middle of the semestre (the end of October)	**10-point** grading scale (midterm test is comprisd by open-ended and closed-ended questions on the materials covered);
Final test	**40 %**	Third week of December	**10-point** grading scale (final test is comprised by open-ended and close-ended questions on the materials covered and a mini-research intended to demonstrate one's ability to carry out ethnopragmatic research independently). The questions formulated in the test will cover the topics discussed both in lectures and seminars. Students who do not attend lectures and seminars must a) independently follow the information related to the course; b) study the (compulsory and optional) texts indicated in the course description and uploaded on the VMA/ MS Teams platform; no individual tutorials to be provided if one appears to have some questions due to their frequent absenteeism. Please, be informed that during an examination retake, the instructor is free to change the structure of the test.
Presentation	**20 %**	Starting with the first week in May	**10-point** grading scale

Assessment of test assignments			**10 (excellent)** One could scarcely expect better from a student who demonstrates outstanding knowledge and skills of the materials covered; the answers are coherent and logical; they are provided in academic English. The student carries out pragmalinguistic research with great confidence. **9 (very good)** Superior work which is clearly above average; the student demonstrates good knowledge of the course materials, understands and knows the key concepts. The answers are provided in academic English. Pragmalinguistic research is caried with confidence. **8 (good)** Good work meeting all requirements and eminently satisfactory. Questions are answered, however, occasional mistikes are observed. The answers are provided in academic English. The student demonstrates substantial knowledge of the key theoretical concepts. Minor inaccuracies are observed in the application of the theoretical guidelines. **7 (highly satisfactory)** Competent work that meets the requirements. However, the answers lack in-depth knowledge; certain errors and discrepancies are observed. The student lacks confidence when applying the theoretical gudelines. **6 (satisfactory)** The student barely met the minimum requirements. Pragmalinguistic research is carried with great difficulty. The student has not fully mastered the course materials. Numerous inaccuracies and discrepancies are observed. **5 (poor)** Fair work, minimally acceptable below expectations. Numerous errors, lack of understanding of the key concepts; the student is hardly able to cary out independent research within the theoretical framework. **4,3,2,1 (insufficient)** Knowledge and skills do not meet the minimum criteria; the student failed to master the course programme; is unable to apply the theories when carrying out independent research; has extremely poor knowledge of the subject matter.
Attendance requirements			70% of lectures and seminars; **Students who have missed more than 30% of lectures and seminars without a justifiable reason will have to re-take the course.**
On the ethical and honest use of Gen AI			When preparing written assignment(s), **principle 1** of Vilnius University Faculty of Philology Guidelines for the Use of Generative AI applies, i.e., no Gen AI. The task is completed entirely without Gen AI, relying only on one's own knowledge and skills; When preparing a presentation/project, **principle 2** of Vilnius University Faculty of Philology Guidelines for the Use of Generative AI applies, i.e., GenAI is used while preparing to complete the task: to generate ideas; plan the stages and structure of a project; identify possible risks; formulate or narrow the topic; formulate a research question; search for scholarly literature; and anticipate possible questions for a discussion, defence, etc.

Author	**Year of publication**	**Title**	**No of periodical or vol. of publication**	**Publication place and publisher or Internet link**
Required reading				
Carrol, G. Conklin, K. and A. Pellicer-Sanchez	2019	*Eye-Tracking: A guide for applied Linguistics Research*		Cambridge: CUP
Jończyk, R.	2016	*Affect-Language Interactions in Native and Non-Native English*		Springer International Publisher

		Speakers. A Neuropragmatic Perspective.		
Recommended reading				
Chen, P.	2022	*Cultural experience influences multisensory emotion perception in bilinguals*	Vol. 7; issue 12	Language; MDPI
Kasperė R., Motiejūnienė,, J., Patasienė, I., Patašius, M. & J. Horbačiauskienė	2023	*Is machine translation a dim technology for its users? An eye-tracking study.*		Frontiers in Psychology. DOI 10.3389/fpsyg.2023.1076379
Sheikh, N. A. & D. Titone	2015	*The embodiment of emotional words in a second language: An eye-movement study*		Cognition and Emotion, DOI: 10.1080/02699931.2015.1018144
Toivo, W. & Scheepers. C.	2019	*Pupillary responses to affective words in bilinguals' first versus second language*		PLoS ONE 14(4): e0210450. https://doi.org/10.1371/journal.pone.0210450

The course syllabus updated on the 21st of November, 2026