

BRAIN AND LANGUAGE
LIN 4790-12949
Academic Term: Fall 2025

Time: T8-9 (3:00-4:55 pm); R 9 (4:05-4:55 pm);
Classroom: MAT 0108

Instructor

Dr. Edith Kaan

Kaan@ufl.edu; 352 294 7453 (leave a message)

Office hours

R 1:55-2:45pm and by appointment. In-person in TUR 4127. If you would like to meet over zoom, please contact the instructor in advance for a zoom number.

Course description

In this course, major issues and terminology in brain and language research will be introduced. Topics addressed include: brain imaging techniques, ERPs, lesion studies, auditory perception, categorization in the brain, localizationist versus generalist approaches, symbolist versus connectionist approaches, modularity, innateness, critical period, lateralization, plasticity, hemispheric differences. Students will be familiarized with important controversies related to these issues, and will learn to evaluate data from brain imaging research. In in-class exercises and other assignments, students will have the opportunity to focus in on a particular topic

Course prerequisites

LIN2011 or SPA4004

Course objectives

- To learn about central issues and terminology in brain and language research (lectures, textbook, in-class exercises)
- To learn to evaluate results and claims from neurolinguistics and brain imaging studies (class room discussions, research project)
- To improve written and oral presentation skills (classroom discussions, written project, oral presentation)

Course website

- On Canvas: <http://elearning.ufl.edu>
- Course materials (lecture notes, syllabus, etc.) and exercises will be made available on the course website. Current **deadlines and grades** will also be posted on the website. You are responsible for checking the site regularly and for letting the instructor know *promptly* if anything is unclear, or if your grade has been entered incorrectly.

Course readings:

- **Required:** Brannon, Jonathan (2022). *Language and the Brain. A slim guide to neurolinguistics*. Oxford University Press. ISBN 978-0-19-881476-4.

- Readings available on-line (through UFlib): **(note: subject to change!)**
 - Campbell, S. (2006). Language in the non-dominant hemisphere. In: K. Brown (Ed.) *The Encyclopedia of Language and Linguistics*. Elsevier. pp. 529-536, <https://doi.org/10.1016/B0-08-044854-2/02395-6>
 - Gabrieli, J.D.E. (2009). Dyslexia: A new synergy between education and cognitive neuroscience. *Science*, 325 17 July 2009 .
 - Giuliano, R., Pfordresher, P., Stanley, E., Narayana, S., & Wicha, N. Y. (2011). Native experience with a tone language enhances pitch discrimination and the timing of neural responses to pitch change. *Frontiers in Psychology*, 2. <https://doi.org/10.3389/fpsyg.2011.00146>
 - Kaan, E. (2007). Event-Related Potentials and language processing: A brief overview. *Language and Linguistics Compass*, 1(6), 571-591.
 - Patterson, K., Nestor, P.J. & Rogers, T.T. (2007). Where do you know what you know? The representation of semantic knowledge in the human brain. *Nature Reviews Neuroscience*, 8, 976-987.
 - Pinker, S., & Ullman, M. T. (2002). The past and future of the past tense. *Trends in Cognitive Sciences*, 6(11), 456-463.
 - McClelland, J. L., & Patterson, K. (2002). Rules or connections in past-tense inflections: what does the evidence rule out? *Trends in Cognitive Sciences*, 6(11), 465-472.

Assessments

Assignment	Percentage of Final Grade
Homework assignments	35%
Short Quizzes (about 5)	20%
Research project + presentation	40%
Class participation/In class assignments	5%
Extra credit (research participation)	2%

Details of assessments

- **Homework Assignments:** Homework assignments will be made available on the course website about a week before they are due; answers need to be turned in **on the website before class** on the day they are due, unless indicated otherwise.
- **Short Quizzes:** Every 2-3 weeks, there will be a short quiz at the beginning of class to test your knowledge of terminology and main concepts discussed in the 2-3 weeks before the quiz. These will be closed-book tests mainly consisting of multiple choice questions. **For exact dates, see the course website.** The dates in the schedule below are subject to change!

- **In-class Activities:** Some in-class activities will require written responses. In some cases, students will be asked to submit a copy of their responses. Activity participation will typically be scored as 100%, but will be graded as 75% when a student is lacking in some effort, or 0% if the assignment has not been handed in.
- **Research Project Assignment:** Over the course of the semester you will work on a project. The topic of this project and the readings pertaining to the project will be assigned to you by the instructor. At various points throughout the semester assignments related to this paper need to be submitted. For detailed instructions and formatting, see the course website.
Part 1: Thinking about experimental techniques: you will be asked to evaluate the use of certain experimental methods to answer particular research questions, based on an original research article assigned to you.
Part 2: Summary: you will be asked to summarize an original research article assigned to you.
Part 3: Group analysis: You will be asked to read 2-3 other research papers on the same research topic that were summarized by your group members, plus one additional paper that your group finds on their own. As a group, you will be asked to identify the differences and similarities among the research findings. This will result in a written group report.
Part 4: Project presentation: The findings in part 3 will be presented to the class as a poster or power point presentation (TBA). This presentation should clearly summarize the main points and arguments of the papers you have read and should conclude with your group's opinion, and suggestions for further experimentation.
Part 5: Final research project/paper assignment: This paper should be written in your own words and submitted individually. It should include a review of a paper you have not discussed in your group report. The final paper should clearly summarize the main points and arguments (data) in favor of one position or the other, concluding with your own stance, as well as suggestions for further experimentation.
- **Optional extra credit assignment:** Students may increase their total grade points by 2 (out of 100) by participating in 2 hours of participation in psycholinguistic experiments. **Deadline is November 13.** For a list of studies that qualify, see the SONA website <https://ufl-slhs.sona-systems.com/>. For details on how to use SONA, see [this document](#). If you choose not to participate in research or do not qualify for any of the studies, you can receive the same amount of course credit by means of an alternative assignment. This involves writing a synopsis of a short research article, video, or a podcast. Details will be made available on the course website.

Policies

- This course complies with all UF academic policies. For information on those policies and for resources for students, please see <https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/>.
- Cell-phone use is not allowed during class unless this is part of the course assignments. If you are using a laptop in class, only use it to take notes and for in-class assignments.

- Students are required to turn in all assignments and tests **before** the class period they are due. Please contact the instructor in advance if you need to skip a class, or cannot make a deadline.
- Students need to disclose any use of AI in their assignments, and need to indicate their prompts and their critical (content) edits of the AI output. AI output without prompts or critical edits will not be accepted. AI needs to be properly cited (<https://apastyle.apa.org/blog/how-to-cite-chatgpt>).
- Attendance is mandatory. If you are absent, or more than 15 minutes late, for more than two classes, you will get a warning. If absences persist the instructor can prohibit further attendance and assign a failing grade for excessive absences.
- Students are encouraged to employ critical thinking and to rely on data and verifiable sources to interrogate all assigned readings and subject matter in this course as a way of determining whether they agree with their classmates and/or their instructor. No lesson is intended to espouse, promote, advance, inculcate, or compel a particular feeling, perception, viewpoint or belief.

Grading

The course grading scale is:

A	94 – 100%		C	74 – 76%
A-	90 – 93%		C-	70 – 73%
B+	87 – 89%		D+	67 – 69%
B	84 – 86%		D	64 – 66%
B-	80 – 83%		D-	60 – 63%
C+	77 – 79%		E	<60

Schedule (subject to change!!!)_

The following schedule is an estimate of the course's progress, with readings for the given week and **approximate** dates of the quizzes and assignments. The instructor will let you know when the tests and assignment deadlines are exactly as they approach, and will keep you updated if we go off track. *****Please regularly consult the schedule on the course website for updates.******

SNG= Slim guide to neurolinguistics (Brennan textbook)

Week	Dates	Topic	Readings/Assignment(s)
1	Aug 21	Introduction	SGN 1:1–17; “getting to know you”
2	Aug 26	Brain anatomy	SGN 2:18–25; SGN 2: 27-31
	Aug 28	Lesions	
4	Sept 2	MRI	Short Quiz SGN 2:25–27; 31-34

	Sept 4	EEG/TMS	SGN: 34-43; Kaan (2007)
3	Sept 9	Fieldtrip to MBI scanners 3:30pm!	
	Sept 11	EEG/Audit perception	SGN 3; SGN 4:62–71
5	Sept 16	Fieldtrip to EEG lab	HW 1
	Sept 18	Audit perception how to read papers	SGN 3; SGN 4:62–71 Project part 1 (techniques) Giuliano et al. (2011)
6	Sept 23	Speech Production and Perception	Short Quiz SGN 4:71–81
	Sept 25		
7	Sept 30	Words in the brain	SGN 5:82–93 Project part 2 (summary) Patterson et al. (2007)
	Oct 2		
8	Oct 7	Morphology	Short Quiz SGN 5:94–99; Pinker & Ullman (2002); McClelland & Patterson (2002)
	Oct 9		
9	Oct 14	Dyslexia (Guest lecture by Dr. Centanni)	Gabrieli (2009) HW 2
	Oct 16	Embodied cognition	SGN 6
10	Oct 21	The N400 & P600; Prediction	Short Quiz SGN 7
	Oct 23		
11	Oct 28	On composition; Naturalistic methods	SGN 8
	Oct 30		Project part 3 (group report)
12	Nov 4	Dependencies; “Broca’s Area”	SGN 9
	Nov 6		
13	Nov 13	No class T Language acquisition /bilingualism	Extra credit deadline HW 3
14	Nov 18	Right hemisphere	Short Quiz Campbell, S. (2006)
	Nov 20		Project presentations
15		NO CLASS NO CLASS	
16	Dec 2		Project presentations