

**BRAIN AND LANGUAGE
LIN 4790-122C
SYLLABUS - Fall Semester 2017**

Classroom & time: MWF 4th period, AND 13 (10:40-11:30 am)

Instructor: Dr. Edith Kaan
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Office Hours (in TUR 4127): Monday+Wednesday: 11:45 am-12:35 pm, and by appointment.

Course rationale and objectives

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

Objectives:

- To learn about central issues and terminology in brain and language research
- To learn to evaluate data from neurolinguistic and brain imaging studies
- To improve written and oral presentation skills

Prerequisite: LIN3010 or SPA4004

Course website:

- elearning.ufl.edu
- Course materials (lecture notes, syllabus, etc.) and exercises will be made available on the course website on E-learning (elearning.ufl.edu). **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 reading:

- **Required:** Ward, Jamie (2015). *The student's guide to cognitive neuroscience*. 3rd edition. Psychology Press. ISBN 978-1-84872-272-9. Available at the Reitz Union bookstore.
- 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
 - Gabrieli, J.D.E. (2009). Dyslexia: A new synergy between education and cognitive neuroscience. *Science*, 325 17 July 2009 (280-283).
 - Jung-Beeman, M. (2005). Bilateral brain processes for comprehending natural language. *Trends in Cognitive Sciences*, 9(11), 512-518.

- Kaan, E. (2007). Event-Related Potentials and language processing: A brief overview. *Language and Linguistics Compass*, 1(6), 571-591.
- Kaan, E., & Swaab, T. Y. (2002). The neural circuitry of syntactic comprehension. *Trends in Cognitive Sciences*, 6(8), 350-356.
- 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.
- McCandliss, B. D., Cohen, L., & Dehaene, S. (2003). The visual word form area: expertise for reading in the fusiform gyrus. *Trends in Cognitive Sciences*, 7(7), 293-299. doi: [http://dx.doi.org/10.1016/S1364-6613\(03\)00134-7](http://dx.doi.org/10.1016/S1364-6613(03)00134-7)
- 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.

Assessment:	% of course grade
• Homework assignments	25%
• Tests	50% (25% each)
• Research project + poster presentation	20%
• Class participation/Activities	5%

In addition, you can receive up to 2 extra points towards the total through research participation, see below.

The course **grading** scale is:

92-100 = A	89-91.9 = A-	86-88.9 = B+	82-85.9 = B
79-81.9 = B-	76-78.9 = C+	72-75.9 = C	69-71.9 = C-
66-68.9 = D+	62-65.9 = D	58-61.9 = D-	Below 58 = E

For UF grading policies for assigning grade points, see:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Details of assessments

Homework Assignments: Homework assignments will be made available on the course website about a week before they are due, and need to be turned in **on the website** by 10:40 am on the day they are due, unless indicated otherwise.

Tests: There will be two in-class, closed-book exams that will cover material from the lectures and assigned readings. Exams will consist of a mix of different question types.

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: The final research project/paper assignment should be carried out and handed in individually, although interactions among students are strongly

encouraged. You can choose among the topics provided by the instructor later in the course, or choose your own topic in discussion with the instructor. For the final paper, you are requested to do a literature search, and find a few relevant journal articles, each discussing different points of view. The final paper should clearly summarize the main points and arguments (data) in favor of one position or the other and should conclude with your own stance, as well as suggestions for further experimentation. The paper should be double spaced, about 10 pages long, including references. It should be formatted according to APA guidelines, and submitted through the course website. At various points throughout the semester draft versions of this paper, or other assignments related to this paper need to be handed in.

Poster presentation: The course is concluded with an individual poster presentation on the basis of your final paper project. The poster should clearly summarize the main points and arguments (brain imaging data) in favor of one position or the other and should conclude with your own stance, and suggestions for further experimentation. You will be graded on the quality of the poster and on the oral presentation of the poster during a poster session

Optional Research Bonus Assignment: Students who wish to may increase their total grade points by 2 (out of 100) by participating in 2 hours of participation in psycholinguistic experiments through the LIN-SLHS participant pool. A list of experiments can be found at: <http://slhs.phhp.ufl.edu/student-info/participant-pool-2>. This site will be updated throughout the semester. Please retain the IRB form with the original signature from the experimenter (no photocopies) as proof that you participated. Experiments that you have previously participated in, experiments that you count towards other classes, or experiments you were paid to participate in *cannot* count toward this. If you choose not to participate 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.

Miscellaneous

Policy on working together: You are welcome to work together on homework assignments and the fieldwork project, but you should write up your answers independently from each other. No collaboration of any kind is allowed on any test. Remember you are bound by the UF honor pledge: “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: *“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”* It is expected that all students will adhere to the full Honor code and academic honesty guidelines available at <https://catalog.ufl.edu/ugrad/current/advising/info/student-honor-code.aspx>

Late policy and attendance: Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

- Students are required to hand in all assignments *before the beginning of the class period* they are due. Please contact the instructor in advance if you need to skip a

class, or cannot make a deadline, and provide a documented excuse. Missing assignments and homeworks will be graded with a “0”.

- There will be no make-up exams, make-up assignments or extensions of deadlines without a documented medical or academic excuse.
- Attendance is required on the days students present posters.
- If you *miss more than 15 minutes of more than three 50-minute class periods* without a documented medical or academic excuse, you will receive a warning. If your absences continue, the instructor reserves the right to prohibit further attendance or subtract points from your grade. See:
<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Incorrect grades: It is your own responsibility to keep track of whether your grade has been entered correctly. If you think a grade for an assignment or test is missing or incorrect, please contact the instructor promptly.

Cell phone and computer policy: Texting and other cell phone or computer activity is not allowed during class unless this is course-related (note-taking, assignments).

Respect for others: Students are expected to behave in a manner that is respectful to the instructor and to fellow students. Opinions held by other students should be respected in discussion, and conversations that do not contribute to the discussion should be held at minimum, if at all.

Accommodations for students with disabilities: Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Health and wellness: If you or a friend is in distress, please contact umatter@ufl.edu or 352-392-1575 so that a U Matter We Care team member can reach out to the student in distress. In case of emergency, call 9-1-1.

Course evaluations: Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

Schedule

The following schedule is an estimate of the course’s progress, with readings for the given week and **approximate** dates of the tests. 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.***

Week	Dates	Topic	Readings/Assignment(s)
1	Aug 21 Aug 23 Aug 25	Introduction Brain anatomy ERP	Ward Ch 1+2 “getting to know you”
2	Aug 28 Aug 31 Sept 1	ERP Fieldtrip to ERP lab	Ward Ch 3
3	Sept 4 Sept 6 Sept 8	NO CLASS fMRI	Ward Ch 4 HW 1
4	Sept 11 Sept 13 Sept 15	Lesions Fieldtrip to scanner	Ward Ch 5
5	Sept 18 Sept 20 Sept 22	Auditory perception	HW 2
6	Sept 25 Sept 27 Sept 29	Words in the brain	
7	Oct 2 Oct 4 Oct 6	Morphology NO CLASS	HW 3
8	Oct 9 Oct 11 Oct 13	Q&A Test 1	Test 1
9	Oct 16 Oct 18 Oct 20	Reading and dyslexia Sentence processing	
10	Oct 23 Oct 25 Oct 27	Sentence processing	HW 4
11	Oct 30 Nov 1 Nov 3	Sentence processing	
12	Nov 6 Nov 8 Nov 10	Language acquisition NO CLASS	HW 5
13	Nov 13 Nov 15 Nov 17	Language acquisition/bilingualism	
14	Nov 20 Nov 22 Nov 24	RH functions NO CLASS NO CLASS	Research project due
15	Nov 27 Nov 29 Dec 1	Q&A test 2 Test 2	Test 2
	Dec 4	Student Presentations	Presentations; attendance required!
	Dec 6	Student Presentations	

