

BRAIN AND LANGUAGE
LIN 4790-17569
SYLLABUS - Fall Semester 2018

Time: T 4th period (10:40-11:30 am) R 4+5th period (10:40 am-12:35 pm);

Classroom: AND 13

Instructor: Dr. Edith Kaan
Office: 4127 Turlington Hall.
kaan@ufl.edu; Phone: 352 294 7453 (leave a message).

Office Hours: In TUR 4127, Monday: 3:00-3:50 pm, Thursday 4:05-4:55 pm,
and by appointment.

Grader: Yucheng Liu
liuyucheng@ufl.edu; **office hours:** 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). 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. Homework that has not been handed in will be graded as "0".

Course readings:

- **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.

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Assessment:	% of course grade
• Homework assignments	25%
• Tests	40% (20% each)
• Research project + presentation	30%
• Class participation/in-class 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: 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 handed in.

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. 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 handed in individually. 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.

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 assignments and other projects, but you should write up your answers independently from each other, unless indicated otherwise. 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 their projects.
- 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 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.******

Week	Dates	Topic	Readings/Assignment(s)
1	Aug 23	Introduction Brain anatomy	Ward Ch 1+2 "getting to know you"
2	Aug 28 Aug 30	lesions	Ward Ch 5
3	Sept 4 Sept 6	ERP Fieldtrip to ERP lab (TBA)	Ward Ch 3
4	Sept 11 Sept 13	fMRI Fieldtrip to scanner	Ward Ch 4
5	Sept 18 Sept 20	Auditory perception	Ward Ch 10 HW 1 due Project part 1 (techniques)
6	Sept 25 Sept 27	Words in the brain	Ward Ch 11
7	Oct 2 Oct 4	Morphology Q&A	Project part 2 due (summary) HW 2 due
8	Oct 9 Oct 11	Test 1	Test 1
9	Oct 16 Oct 18	Reading and dyslexia	Ward Ch 12
10	Oct 23 Oct 25	Sentence processing	Ward Ch 9,11, 14
11	Oct 30 Nov 1	Sentence processing	HW 3 due Project part 3 due (group report)
12	Nov 6 Nov 8	Language acquisition	Ward Ch 16
13	Nov 13 Nov 15	Language acquisition/bilingualism	Project presentations Project presentations
14	Nov 20 Nov 22	Q&A NO CLASS	HW 4 due
15	Nov 27 Nov 29	Test 2	Test 2 Project presentations
16	Dec 4	Wrap-up	Project presentations Final paper due Dec 11