

Methods in Psycholinguistics
LIN 6708C - 28856 / LIN4702C -28854
Class Periods: T 8-10th period, 3:00-6:00pm
Location: TUR2333
Academic Term: Fall 2024

Instructor: Edith Kaan
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Office Hours:

M 1:30-2:30pm; R 12:50-1:40pm and by appointment. In person in TUR 4127. If you would like to meet me over zoom, please contact me in advance for a zoom number.

Course website: on Canvas: <http://elearning.ufl.edu>

Course Description

In this course, students will learn how to design and implement psycholinguistic experiments. Students will also learn how to analyze and interpret data obtained from such experiments. In addition, an overview will be given of various experimental techniques, including electrophysiology, eye tracking, and web-based experimentation. We will use Qualtrics and Gorilla as platforms for stimulus presentation and data collection, and R and R studio for data analysis. We will also address open science and research ethics. The course will include one or more projects in which students carry out and analyze data from a small experiment of their own design. Results of the experiments will be presented and discussed with the rest of the class. This is a 3-credit course.

Course Pre-Requisites / Co-Requisites

Psycholinguistics or Advanced psycholinguistics; at least one statistics course.

Course Objectives

- To learn what is involved in designing, carrying out, analyzing a psycholinguistic study, and what pitfalls to avoid
- To learn to use software for stimulus presentation, data acquisition and data analysis.
- To become familiar with best practices in experimental research (open science, ethics)
- To improve problem solving skills
- To improve presentation skills and team work

Software:

Excel (Microsoft office); R (www.r-project.org); R-studio (www.rstudio.com). We will also use Gorilla, and Qualtrics. Details will be made available in class.

Laptop:

For quite a few in-class assignments, you are required to **bring your laptop to class**. Please have R and R studio installed by the second session.

Course Assignments

Homeworks

Homework assignments are designed to support main lectures and labs throughout the semester. Details will be given in class and on Canvas. Homework needs to be submitted (Canvas unless noted otherwise), just before the class period of the day they are due.

Group projects

This class centers around two group projects. The aim of these projects is to obtain hands-on experience with designing, implementing, and collecting data in psycholinguistic experiments. Group projects also include data analysis and visualization. Groups will present their study and outcomes as a presentation in class and as a written report.

Presentation on discussion paper

During the semester, you will give one presentation on a recent empirical paper that makes use of the methods we have recently discussed in class to study a (psycho)linguistic topic (broadly construed). Papers will be chosen in consultation with me. Presentation length will be based on class size. More details will be provided in class.

Active participation

I expect you to come to class prepared, to have completed the reading and assignments prior to class discussion, and to have questions and ideas that you are prepared to discuss.

Scrapbook posts

You will be asked to maintain a scrapbook on good and bad Data Science practices that you come across in everyday life. The main goal of this task is to highlight for you what is effective data communication. More details will be announced in class.

Evaluation of Grades

Assignment	Percentage of Final Grade
Homeworks	20%
Paper presentation	5%
Group Project 1	25%
Group Project 2	35%
Active participation, timely posting of discussion items and scrapbook posts	10%

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>

Course Schedule and Readings

See the last pages of this syllabus. Readings can be obtained from the UF library website (e-journals). Where indicated, the reading is available through the course website. In some cases, a hardcopy will be made available for you to photocopy. Readings are required, unless indicated otherwise.

Cellphone Policy, Attendance Policy, AI policy, Class Expectations, and Make-Up Policy

- Cell-phone use is not allowed during class unless this is part of the course assignments. If you are using a laptop or tablet 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.
- 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: catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/
- 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.

Students Requiring Accommodation

Students with disabilities requesting accommodations should first register with the Disability Resource Center (<https://disability.ufl.edu/students/get-started/>) 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.

Course Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

University Honesty Policy

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor 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.” The Honor Code (<https://sccr.dso.ufl.edu/process/student-conduct-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor in this class.

Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html>

Recording

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Campus Resources: See course website

Overview of the course and readings (subject to change!!!). **PLEASE CONSULT THE COURSE WEBSITE FOR CURRENT DEADLINES**

Week	Topic	Lab	Readings/videos	Assignments (not exhaustive!)
2 –Aug 27	Intro, terminology	Qualtrics; Reverse engineering of a judgment study	<i>Kroll et al. (2008)</i> <i>Keating & Jegerski (2015)</i>	Getting to know you Installing R
3 –Sept 3	Judgment studies Making materials	Intro to R and Data wrangling	<i>Schutze & Sprouse (2014)</i> <i>Arunachalam (2013).</i> Qualtrics: tutorial video	Project 1: research question
4- Sept 10	Web-based studies	R: Visualizing means	(1)Example paper using judgment <i>Sauter et al. (2020)</i> <i>Grootswagers (2020)</i>	Critical reading-1 Project 1: making materials
5 –Sept 17	On-line behavioral studies (self-paced reading, lexical decision)		(2) Example paper using self-paced reading	Project 1: implement and test
6 – Sept 24	Ethics/IRB	Data collection and analysis	IRB training (3) Example paper TBA	Project 1: analyze data and report
7 –Oct 1		Class reports on Project 1; Gorilla	Gorilla tutorials Intro Project 2	
8– Oct 8	Open science, Preregistration; Data management Data bases	Making materials Subtlex, Coca; other data bases	(4) example paper TBA <i>Kathawalla (2021);</i> <i>Mertzen (2021);</i> <i>Roetger (2021);</i> Optional: <i>Oshiro et al. (2024)</i>	Critical reading-2 Project 2:research question
9– Oct 15	Production studies/priming Virtual reality		(5) Example paper TBA	Project 2: materials & report
10 – Oct 22	Individual differences; Statistical power	Demo: power	(6) Example paper using production <i>Hedge et al. (2018)</i>	Project 2: latin squaring & report

			<i>Brysbaert (2019); Vasishth & Nicenboim (2016); Nicenboim & Vasishth (2016)</i>	Filler items
11 –Oct 29	Eye-tracking during reading	Demo: Data wrangling of Gorilla data	(7) Example paper on ind. Differences <i>Keating (2013)</i> <i>Godfroid & Hui (2020)</i>	Project 2: implementation preregistration
12– Nov 5	Visual world paradigms/ mousetracking		(8) Example paper on eyetracking while reading <i>Huettig et al. (2011)</i>	Project 2: IRB
13– Nov 12	fMRI; EEG		(9) Example paper on VWP or mousetracking <i>Sabourin (2014); Kaan (2007)</i>	Project 2: testing, data collection (out of class)
14– Nov19	Psycholinguistics in the wild; Field psycholinguistics	Data analysis	(10) Example paper on EEG or fMRI <i>Speed et al. (2018)</i> <i>Lipski (2016)</i>	Project 2: data analysis and reporting
15-	NO CLASS	NO CLASS	NO CLASS	NO CLASS
16 – Dec 3	Wrap-up	Class reports on Project 2		Project 2: presentation and report

Reading list

- Arunachalam, S. (2013). Experimental Methods for Linguists. *Language and Linguistics Compass*, 7(4), 221-232. <https://doi.org/10.1111/lnc3.12021>
- Brysbaert, M. (2019). How many participants do we have to include in properly powered experiments? A tutorial of power analysis with reference tables. *Cognition*. <https://doi.org/10.5334/joc.72>
- Godfroid, A., & Hui, B. (2020). Five common pitfalls in eye-tracking research. *Second Language Research*, 36(3), 277-305. <https://doi.org/10.1177/0267658320921218>
- Grootswagers, T. (2020). A primer on running human behavioural experiments online. *Behavior Research Methods*. <https://doi.org/10.3758/s13428-020-01395-3>
- Hedge, C., Powell, G., & Sumner, P. (2018). The reliability paradox: Why robust cognitive tasks do not produce reliable individual differences. *Behavior Research Methods*, 50(3), 1166-1186. <https://doi.org/10.3758/s13428-017-0935-1>
- Huettig, F., Rommers, J., & Meyer, A. S. (2011). Using the visual world paradigm to study language processing: A review and critical evaluation. *Acta Psychologica*, 137(2), 151-171. <https://doi.org/10.1016/j.actpsy.2010.11.003>
- Kaan, E. (2007). Event-Related Potentials and Language Processing: A Brief Overview. *Language and Linguistics Compass*, 1(6), 571-591. <https://doi.org/10.1111/j.1749-818X.2007.00037.x>

- Kathawalla, U.-K., Silverstein, P., & Syed, M. (2021). Easing Into Open Science: A Guide for Graduate Students and Their Advisors. *Collabra: Psychology*, 7(1). <https://doi.org/10.1525/collabra.18684>
- Keating, G. D. (2013). Eye-tracking with text. In J. Jegerski & B. VanPatten (Eds.), *Research Methods in Second Language Psycholinguistics* (1 ed., pp. 69-92). Routledge.
<https://www.taylorfrancis.com/chapters/edit/10.4324/9780203123430-4/eye-tracking-text-gregory-keating>
- Keating, G. D., & Jegerski, J. (2015). Experimental designs in sentence processing research: A Methodological Review and User's Guide. *Studies in Second Language Acquisition*, 37(1), 1-32.
<https://doi.org/10.1017/S0272263114000187>
- Kroll, J. F., Gerfen, C., & Dussias, P. E. (2008). Laboratory Designs and Paradigms: Words, Sounds, and Sentences. In *The Blackwell Guide to Research Methods in Bilingualism and Multilingualism* (pp. 108-131). <https://doi.org/10.1002/9781444301120.ch7>
- Lipski, J. M. (2016). Palenquero and Spanish: A first psycholinguistic exploration. *Journal of Pidgin and Creole Languages*, 31(1), 42-81. <https://doi.org/10.1075/jpcl.31.1.03lip>
- Mertzen, D., Lago, S., & Vasishth, S. (2021). The benefits of preregistration for hypothesis-driven bilingualism research. *Bilingualism: Language and Cognition*, 24(5), 807-812.
<https://doi.org/10.1017/S1366728921000031>
- Nicenboim, B., & Vasishth, S. (2016). Statistical methods for linguistic research: Foundational Ideas— Part II. *Language and Linguistics Compass*, 10(11), 591-613. <https://doi.org/10.1111/lnc3.12207>
- Oshiro, B., Alley, L. J., & Flake, J. K. (2024). Want to try a registered report? Here are our lessons learned. *Canadian Journal of Experimental Psychology / Revue canadienne de psychologie expérimentale*, <https://doi.org/10.1037/cep0000338>
- Roettger, T. B. (2021). Preregistration in experimental linguistics: applications, challenges, and limitations. *Linguistics* 59(5), 1227-1249. <https://doi.org/10.1515/ling-2019-0048>
- Sabourin, L. (2014). fMRI Research on the Bilingual Brain. *Annual Review of Applied Linguistics*, 34, 1-14.
<https://doi.org/10.1017/S0267190514000038>
- Sauter, M., Draschkow, D., & Mack, W. (2020). Building, Hosting and Recruiting: A Brief Introduction to Running Behavioral Experiments Online. *Brain Sciences*, 10(4), 251.
<http://dx.doi.org/10.3390/brainsci10040251>
- Schütze, C. T., & Sprouse, J. (2014). Judgment data. In R. J. Podesva & D. Sharma (Eds.), *Research methods in linguistics* (pp. 27-50). Cambridge University Press.
- Speed, L. J., Wnuk, E., & Majid, A. (2018). Studying psycholinguistics out of the lab. In: A. M. B. de Groot & P. Hagoort (Eds.) *Research methods in psycholinguistics and the neurobiology of language: A practical guide*. (pp. 190-207). Wiley Blackwell.
- Vasishth, S., & Nicenboim, B. (2016). Statistical Methods for Linguistic Research: Foundational Ideas – Part I. *Language and Linguistics Compass*, 10(8), 349-369. <https://doi.org/10.1111/lnc3.12201>