

SPN 6735/LIN 6703C Experimental Methods

Fall 2015

W Periods 9-11, Anderson 32

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Office Hours: M 2:00-4:00pm; T 11:00-12:00pm or
by appointment

Course Overview:

Students will learn how to design and implement (primarily) psycholinguistic experiments using select behavioral and neurocognitive methods focused on the study of language perception and production at the word, sentence and discourse levels (e.g. picture/word naming, self-paced reading, priming techniques, eye-tracking, ERP, & fMRI). Additionally, students will develop good practices for crafting relevant research questions, hypothesis testing, and determining appropriate statistical analyses. As such, a secondary aim of the course is to provide a no-background-assumed introduction to statistics and basic programming through the open-source software package, R.

Prerequisites:

No prior background assumed.

Course readings:

There are no required textbooks. Readings will be posted on Canvas (<https://lss.at.ufl.edu>). I am happy to offer supplementary references for additional background reading for students who request them.

Because this is a methods course, students should bring their laptops to class every week.

Grading

The course grade will be calculated as follows:

Participation & Attendance	10%
Homework	10%
Writing Assignments (2)	40%
Class Presentation	15%
Final Project	25%

Grade Scale

The final grade scale is as follows:

A grade of C- will not be a qualifying grade for major, minor, Gen Ed, Gordon Rule or Basic Distribution Credit courses. For further information regarding passing grades and grade point equivalents, please refer to the [Undergraduate Catalog](#)

A = 100-93	C(S) = 76-73
A- = 92-90	C-(U) = 72-70
B+ = 89-87	D+ = 69-67
B = 86-83	D = 66-63
B- = 82-80	D- = 62-60
C+ = 79-77	E = 59-0

COMPONENTS

Participation & Attendance

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. I also expect professional respect throughout the semester: that is, I ask that you refrain from using social media during class time and please silence your phones. I will not call you out for using social media during class, but it will be noticed and will affect your participation grade.

Homework exercises

Homework assignments are designed to support main lectures and labs throughout the semester. Quantitative methods and statistics are difficult to learn purely through readings and lecture, so lab tutorials are designed to aid students in self-discovering good research practices and analysis techniques. Homework assignments will be assigned as needed throughout the semester (no more than 5 assignments will be counted for course grade).

Writing Assignments (2)

Writing assignment 1: due September 23.

Select a brief report-style article (generally 5-8 journal pages) from 2014, 2015 or in press on any psycholinguistic topic of interest. Based on introductory lectures on good research practices, you will critique the article by identifying the research questions, hypotheses, and predictions; how they set out to test their hypotheses (e.g. what experimental design did the authors choose to test their hypotheses); and how successful the research group was in answering their research questions. Critiques will be minimally 3 full and maximally 5 full single spaced pages (not including references) with 1 in. margins. Writing assignments are to be turned in electronically before class with the chosen brief article. Please ask me if you are having difficulty identifying an article. More details will be provided in class.

Writing assignment 2: due October 28.

Write a critical comparison of the methodology used in 3 papers that all applied one technique of your choice. In particular, focus on how the technique was successfully (or not) used to test the investigators' hypotheses; the advantages of chosen technique over other techniques; and any additional critiques/commentaries on the use of the technique for the study (e.g. is there another technique or paradigm that may have been better suited for the study?). Please ask me if you are having difficulty in choosing a methodology or in finding articles. More details will be provided in class.

*When submitting your critiques, make certain that your last name appears in the filename attachment that you send me.

Class Presentation

During the semester, you will give one presentation on a recent empirical paper (2013-present) that makes use of behavioral or neurocognitive methods to study a (psycho)linguistic topic on bilingualism (broadly construed). Papers will be chosen in consultation with me. The rest of the class will not read the article, so the presentation is designed to aid in effectively communicating psycholinguistic methods to an audience unfamiliar with the study. Presentation length will be based on class size. Presentations may be done in PowerPoint, Keynote, or LaTeX. More details will be provided in class.

Group Project

During the last third of the semester, the class will divide into small groups with the goal of creating and successfully carrying out a mini-experiment. Class time will be dedicated to building the experiment; additionally, groups will need to work outside of the classroom to complete their projects. Classmates will be the participants for the experiments. The project will result in 2 outputs: 1) group presentation on

the last day of class 2) a final project write-up that will mirror the structure of a journal article--this written assignment will be completed collaboratively (thus reflecting, real-world practices in psycholinguistic research). More details will be provided in class. Final group papers will be due on 12/14.

UNIVERSITY POLICIES

Academic Integrity

All students are required to abide by the Academic Honesty Guidelines which have been accepted by the University. The UF Honor Code reads:

We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

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." For more information please refer to <http://www.dso.ufl.edu/studentguide>.

Accommodations

Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation. For more information see <http://www.dso.ufl.edu/drc>.

Counseling and Wellness

A variety of counseling, mental health and psychiatric services are available through the UF Counseling and Wellness Center, whose goal is to help students be maximally effective in their academic pursuits by reducing or eliminating emotional, psychological, and interpersonal problems that interfere with academic functioning. The Center can be found online at <http://www.counseling.ufl.edu/cwc> or reached by phone at 392-1575.

Course Evaluation Process

Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online 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>.

***Tentative Course Schedule: Reading list subject to change based on class pace and student need

Week	Lecture	Readings	Lab
1 -- 8/26	Introduction/Thinking Research	Research Manual, Chapter 1	R Intro (Daalgard, Chapter 1)
2 -- 9/2	Variables, Experimental Design; IRB	Research Manual, Chapter 2; Quantitative Research Chapter 2	Distributions, central tendency, dispersion (Johnson, Chapter 1)
3 -- 9/9	Stimuli Creation, Lexical Databases; Norming	Skezely et al. (2004); Tokowicz et al. (2002);	t-tests, correlations; Qualtrics and Mechanical Turk
4 -- 9/16	Counterbalancing; Pseudorandomization	MIX (Van Casteren & Davis, 2006); Heese (1997)	Intro to experimental presentation software
5 -- 9/23	Grammaticality Judgments & Magnitude Estimation	Keller (1998); Sprouse (2011); Sorace (2010)	Continuing Experimental Presentation Software
6 -- 9/30	Behavioral Techniques-- Lexical Paradigms	Kroll et al. (2007); Costa & Caramazza (2000);	Data Trimming; Data Manipulation

7 -- 10/7	Self-paced Reading	Jegerski (2014); Jackson & Dussias (2009)	repeated measures ANOVA
8 -- 10/14	Jorge Away--TBD		
9 -- 10/21	Eye-tracking--Reading	Keating (2014); Rayner (1998); Guzzardo Tamargo et al. (submitted)	LMEM (Barr et al., 2013; Bates et al., submitted)
10 -- 10/28	Jorge Away--TBD		Group Projects--stimuli creation
11 -- 11/4	Eye-tracking--Auditory	Dussias et al. (2014); Huettig et al. (2011); Valdés Kroff et al. (<i>in press</i>)	Group Projects--scripting
12 -- 11/11	HOLIDAY -- NO CLASS		
13 -- 11/18	Priming Studies	Roberts (2014); McDonough & Trofimovich, Chapter 2; Bock & Griffin (2000)	Group Projects--run participants
14 -- 11/25	HOLIDAY -- THANKSGIVING		
15 -- 12/2	Individual Differences	Gathercole (2007); Yap et al. (2012); Bialystok et al. (2004)	Group Projects--Analyze Data
16 -- 12/9	fMRI	Newman (2014); Stowe et al. (2005)	Group Projects--Presentations

**Topics to be discussed but date not yet determined: ERP methodology; dialogue studies