

## Research Methods in Linguistics

*Sample syllabus designed by Amy Hutchinson*

### Course Description

This course will present an overview of experimental research in linguistics. The course will walk through each step of the experimental process from writing a literature review and formulating research questions to presenting and publishing completed research. This course will provide students with a conceptual understanding of designing and conducting experiments both in-person and online. This course also contains a number of practical components, where students are encouraged to apply course concepts in a way that is useful for their own future research. Practical components include using reference management programs, developing experiments using experimental design software, completing CITI training, using R to process, analyze, and visualize data, and preparing conference presentation templates. Throughout the semester, students will also gain practical experience by designing and conducting a replication study as a class from inception to completion. While this course is focused on linguistics, students from other areas in the social sciences should find it applicable to their own studies.

### Learning Goals

- To develop a robust understanding of the research process in the field of linguistics and be able to apply this understanding to their own research
- To learn how to adequately develop an appropriate experiment to answer a specific research question/test a specific hypothesis
- To become familiar with the practical components of the research process including acquiring funds to conduct research, creating protocols for the Institutional Review Board, selecting materials, choosing tasks, recruiting participants, processing data, conducting statistical analyses, and visualizing data
- To carry out an original replication study as a class from start to finish<sup>1</sup>
- To develop the ability to summarize and present experimental results

---

<sup>1</sup> Depending on class size, students might be split-up into small groups based on research interest to complete this portion of the course

## **Course outcomes**

By the end of the semester, the class should have a finalized linguistic replication study that they are able to present at conferences and potentially publish. Using this study and other concepts in the course, students should also be able to carry-out their own experimental research.

## **Required Text**

There are no required textbooks in this course. All materials will be sent to you and/or are available through the university library.

## **Course Requirements**

### Classroom discussion/participation

As seminar that relies heavily on course discussion, I expect every student to keep up with the assigned readings and engage with the research in question. Please plan to regularly and thoughtfully contribute to classroom discussion and to be considerate of others in the course. Substandard participation, including infrequent or irrelevant class discussion, frequent class absence/tardiness, and disrespect to the instructor or your peers, will result in a reduction to this grade.

### Practical component activities

In addition to readings and in-class lectures, each week there will be a practical component that addresses the topics being covered. Students will submit their practical component or evidence that they completed the practical component for a grade depending on the logistics of the activity. The instructor will provide the student with guidance on how to submit each activity. Whenever possible, these practical competent activities will align with present goals of the replication research.

### Replication research progress

While there are five weeks in the course schedule set aside to design our group replication experiment, students should plan to put in the majority of the work on this project outside of the classroom. Every other week (starting week 4), each student will submit a progress report that outlines the progress they have made on the group project and their goals for the upcoming week using a template that will be provided by the instructor.

### Final research statement

At the end of the course, you will write a short statement describing your contributions to the replication research project as precisely and specifically as possible. These statements need to be corroborated by your peers. In this statement, you should also outline potential future plans for this research project including potential conference venues, publication options, etc., as well as your intention (or lack thereof) to contribute to the project after the semester has finished. **Students are not required to continue with the project after the course is complete.**

### **Grading**

30%- Classroom discussion/participation

30%- Practical component activities

30%- Replication research progress

10%- Final research statement

## Course Outline

WEEK	TOPIC(s)	PRACTICAL COMPONENT(s)	READING(s)
Week 1	<p><b>Introduction to the course</b></p> <p><b>Preparing to conduct linguistics research</b></p> <ul style="list-style-type: none"> <li>-Using databases and web search engines to find relevant literature</li> <li>-The importance of peer-review</li> <li>-Using reference management software to manage bibliographic data and related research materials</li> <li>-Finding and assessing existing gaps in the literature</li> </ul>	<ul style="list-style-type: none"> <li>-Students will receive hands-on reference management experience with Zotero</li> </ul>	Field & Hole (2002)- Chapter 1
Week 2	<p><b>Creating an experiment</b></p> <ul style="list-style-type: none"> <li>-Developing research questions and well-informed hypotheses</li> <li>-Selecting variables and materials</li> <li>-Task selection</li> <li>-Experimental design software</li> </ul>	<ul style="list-style-type: none"> <li>-Students will develop a small linguistics experiment using Gorilla based on goals provided by the instructor</li> </ul>	Field & Hole (2002)- Chapter 2
Week 4	<p><b>Research Replication Workshop #1</b></p> <p>Goals: Select the research we will replicate and decide how variables in the original study will be modified</p>		
Week 5	<p><b>Ethical Considerations</b></p> <ul style="list-style-type: none"> <li>-The Institutional Review Board</li> <li>-CITI training</li> <li>-Preparing a protocol</li> </ul>	<ul style="list-style-type: none"> <li>-Students should complete CITI training or submit documentation of current certification</li> </ul>	Podesva & Sharma (2014)- Chapter 2

	<p><b>Participant selection/recruitment</b></p> <ul style="list-style-type: none"> <li>-Selecting participants and managing variables that will be held constant during recruitment</li> <li>-Deciding on a sample size and participant compensation</li> <li>-Recruiting participants</li> </ul>	<ul style="list-style-type: none"> <li>-Students will work through a mock IRB protocol</li> </ul>	
Week 6	<p><b>Funding research</b></p> <ul style="list-style-type: none"> <li>-Seeking internal and external funding sources</li> <li>-Writing grants to support data collection and research <i>(students will receive experience reading/reviewing existing proposals)</i></li> <li>-Translating research to an audience not in your field</li> </ul>	<ul style="list-style-type: none"> <li>-Students will receive experience reading and reviewing existing grant proposals</li> </ul>	Macaulay (2006)- Chapter 7
Week 7	<p><b>Considerations for online research</b></p> <ul style="list-style-type: none"> <li>-Validity of online research</li> <li>-Ensuring data quality</li> <li>-Platforms for experimental design and data collection</li> </ul>	<ul style="list-style-type: none"> <li>-Students will read previous lab-based research and decide which variables must be modified for an online replication</li> </ul>	Page (2017)
Week 8	<p><b>Research Replication Workshop #2</b></p> <p>Goals: Complete study design, finalize practical considerations, and build experiment on Gorilla in preparation for data collection, begin data collection (online)</p>		
Week 9	<p><b>During data collection</b></p> <ul style="list-style-type: none"> <li>-Creating a detailed plan for data collection sessions</li> <li>-Managing research assistants</li> <li>-Creating achievable goals and a manageable timeline</li> </ul> <p><b>Introduction to R</b></p>	<ul style="list-style-type: none"> <li>-Students will complete a research timeline and goal sheet</li> <li>-Students will download R and work through running simple functions and code</li> </ul>	Winter (2019)- Chapter 1

	-Introducing R, downloading R/R-Studio, running simple code		
Week 10	<p><b>Data processing/management</b></p> <ul style="list-style-type: none"> <li>-Platforms for storing data</li> <li>-Creating a data management system</li> <li>-Data management packages in R</li> <li>-Transforming output from experimental builders</li> </ul> <p><b>Analyzing data statistically</b></p> <ul style="list-style-type: none"> <li>-Conducting statistical analysis with R</li> <li>-Choosing a data analysis procedure</li> <li>-Introducing common types of analyses (e.g. simple linear regression, multiple regression, correlations)</li> </ul>	<ul style="list-style-type: none"> <li>-Students will revise messy data using R so that it becomes manageable, interpretable to others and reproducible</li> <li>-Students will complete simple statistical analyses in R and interpret output</li> </ul>	Winter (2019)- Chapter 2 and 3
Week 11	<p><b>Analyzing data statistically cont.</b></p> <ul style="list-style-type: none"> <li>-Mixed modeling: independent data, selecting slopes and intercepts, interpreting random effects</li> <li>-Executing and interpreting mixed models in R</li> </ul>	<ul style="list-style-type: none"> <li>-Students will get hands on experience specifying mixed effects models with R syntax</li> </ul>	Winter (2019)- Chapter 4 and 14
Week 12	<p><b>Research Replication Workshop #4</b></p> <p>Goals: Process collected data, make statistical analyzation decisions, analyze data using R</p>		
Week 13	<p><b>Data visualization</b></p> <ul style="list-style-type: none"> <li>-How to appropriately visualize your data</li> <li>-Using the ggplot2 package for data visualization</li> </ul>	<ul style="list-style-type: none"> <li>-Students will have the opportunity to create and modify R code to visualize provided data</li> </ul>	

<p>Week 14</p>	<p><b>Research dissemination</b></p> <ul style="list-style-type: none"> <li>-Managing relationships and communicating expectations with collaborators</li> </ul> <p><b>Conference presentations</b></p> <ul style="list-style-type: none"> <li>-Finding the appropriate conference to present your project</li> <li>-Writing an abstract based on conference guidelines</li> <li>-Creating effective oral and poster presentations</li> <li>-Securing funding for conference-related expenses</li> </ul>	<ul style="list-style-type: none"> <li>-Students will create oral and poster presentation templates that can be used for future research presentations</li> </ul>	<p>Wei &amp; Moyer (2017)- Chapter 21, Macaulay (2006)- Chapter 6</p>
<p>Week 15</p>	<p><b>Publishing</b></p> <ul style="list-style-type: none"> <li>-Writing up experimental research</li> <li>-Publication options and procedures</li> <li>-The peer-review process</li> <li>-Post-publication: Making sure your research gets read and advertising yourself as a researcher</li> </ul>	<ul style="list-style-type: none"> <li>-Students will address mock-revision requests from reviewers</li> <li>-Students will create a Research Gate profile</li> </ul>	<p>Macaulay (2006)- Chapter 7</p>
<p>Week 16</p>	<p><b>Research Replication Workshop #5</b></p> <p>Goals: Write-up initial study results for an upcoming conference and decide on potential publication plans</p>		

## Course Bibliography

Field, A., & Hole, G. (2002). *How to design and report experiments*. Sage.

Macaulay, M. A. (2006). *Surviving linguistics: A guide for graduate students*. Cascadilla Press.

Page, R. (2017). Ethics revisited: Rights, responsibilities and relationships in online research. *Applied Linguistics Review*, 8(2–3), 315–320. <https://doi.org/10.1515/applirev-2016-1043>

Podesva, R. J., & Sharma, D. (2014). *Research methods in linguistics*. Cambridge University Press.

Wei, L., & Moyer, M. G. (2017). *The Blackwell Guide to Research Methods in Bilingualism and Multilingualism*. John Wiley & Sons.

Winter, B. (2019). *Statistics for linguists: An introduction using R*. Routledge.