

# LING 113: Spring 2016

## Experimental Phonetics

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Instructor: Susan Lin  
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M 11-12p, Th 2-3p, or by appointment

Technical Support: Ronald Sprouse  
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Office Hours: 1303 Dwinelle  
M 10-11a, or by appointment

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**Class meetings.** TuTh 9:30a-11:00a; 203 Wheeler and occasionally 52 Dwinelle

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**Course Description.** Practical training in experimental phonetics, including the acoustic, physiological, and perceptual analysis of speech.

**Prerequisite.** Ling 110 or instructor approval

**Learning goals.** By the end of this course, you will be able to

- critically read and understand contemporary research in phonetics.
- perform acoustic analysis of speech.
- construct and carry out speech perception studies.
- perform basic data visualization and create research reports.

**Technology.** This course makes extensive use of digital technology and assumes that you have regular access to a personal computer on which you have administrator permissions. If you do not, please contact Prof. Lin or Ronald Sprouse ASAP.

To handle inter-OS differences, we will be using virtualization software for some tasks, so a further suggested feature of your personal computer is that it supports virtualization. The virtual machine we will run is a variant of the Berkeley Common Environment (<http://bce.berkeley.edu/>) tailored for the Phonology Lab. Your computer must therefore be able to run VirtualBox (<https://www.virtualbox.org/>) and have approximately 14GB free space on your hard drive.

**Course Requirements.** Each student taking the course for credit is expected to

- Complete assigned readings and be ready to discuss the content of the readings in class
- Complete six short writing assignments
  - 3 summaries of readings and (attempted) study replications
  - 3 lab reports
- Attend a phonetics-related conference talk or colloquium and write a short (up to 1 page) reaction
- Complete a term project, which will be a short experiment or an analysis of pre-existing data with a 10-15 page writeup of that work

- Participate in a 2-3 day “conference” at the end of the semester in which each student will give a short (up to 10 minutes) oral presentation on the contents of their term project

**Point Distribution.**

Reading summaries and replications (3)	30
Lab reports (3)	30
Project proposal	5
Project writeup	20
Presentation	10
Talk attendance and reaction	5
<hr/> TOTAL	<hr/> 100

**Letter Grade Distribution.**

$\geq 93.00$	A	73.00 - 76.99	C
90.00 - 92.99	A-	70.00 - 72.99	C-
87.00 - 89.99	B+	67.00 - 69.99	D+
83.00 - 86.99	B	63.00 - 66.99	D
80.00 - 82.99	B-	60.00 - 62.99	D-
77.00 - 79.99	C+	$\leq 59.99$	F

**Course Policies.**

All assignments should be submitted online through bCourses, by 11:59p of the due date. Feedback will be distributed online within a week of the assignment’s due date.

**Collaboration** on replications and reports is permitted, up to 3 students per group. Each group should submit one assignment, with all collaborators’ names clearly indicated on the assignment. Collaboration on project proposals and write-ups are not permitted. While you are encouraged to attend talks together, and you may discuss the contents of talks with one another, each student should submit their own reaction.

**University Policies.**

**Academic misconduct.** All forms of academic misconduct, including plagiarism, failing to cite a source of information, alteration of university documents, or cheating during exams are serious offenses with serious consequences. In accordance with University policy, incidents of academic misconduct will be reported to the UC Berkeley Center for Student Conduct and Community Standards.

**Accommodation of religious creed.** In compliance with Education code, Section 92640(a), it is the official policy of the University of California at Berkeley to permit any student to undergo a test or examination, without penalty, at a time when that activity would not violate the student’s religious creed, unless administering the examination at an alternative time would impose an undue hardship that could not reasonably have been avoided. Requests to accommodate a student’s religious creed by scheduling tests or examinations at alternative times should be submitted directly to the faculty member responsible for administering the examination **by the second week of the semester.**

**Class schedule.**<sup>1</sup>

Date	Topics	Due Dates (tentative)
01/19 Tu	Welcome! and an Intro to the Scientific Method	
01/21 Th	Technology (bring your computer if possible)	
01/26 Tu	<b>Unit 1: Acoustics</b>	Reading (Unit 1)
01/28 Th	• recording speech in the lab	
02/02 Tu	• measuring temporal and spectral qualities of speech	
02/04 Th	• automated tools (time permitting)	
02/09 Tu	• preliminary data visualization	Replication (Unit 1)
02/11 Th		
02/16 Tu	<b>Unit 2: Perception</b>	Lab Report (Unit 1), Reading (Unit 2)
02/18 Th	• designing perception tasks	
02/23 Tu	• OpenSesame experiment toolkit	
02/25 Th	• aggregating perception data & interpretation	
03/01 Tu	• using the Klatt synthesizer (time permitting)	Replication (Unit 2)
03/03 Th		
03/08 Tu	<b>Unit 3: Articulation</b>	Lab Report (Unit 2), Reading (Unit 3)
03/10 Th	• collecting and interpreting airflow and EGG data	
03/15 Tu	• collecting and interpreting ultrasound data	Project Proposal
03/17 Th	(time permitting)	
03/22 Tu 03/24 Th	<b>Spring Break</b>	
03/29 Tu	Unit 3 (continued)	Replication (Unit 3)
03/31 Th		
04/05 Tu	Independent research days	Lab Report (Unit 3)
04/07 Th		
04/12 Tu		
04/14 Th		
04/19 Tu		Talk “reflection” <sup>2</sup>
04/21 Th	In-class presentations	
04/26 Tu		
04/28 Th		
05/13 Fri		Project Writeup

Each “Unit” will be 3 weeks long, and will have the following structure

- Week 1 – read a paper, and collect data for an attempted replication
- Week 2 – analyze and visualize the data collected in Week 1, and write up a summary of the success or failure of the replication
- Week 3 – use similar methods to collect data for and answer a new question, then write up a “lab report” of this activity

<sup>1</sup>This schedule is preliminary. Due dates may be altered as needed to accommodate issues that arise during the progression of the course.

<sup>2</sup>You may submit this anytime before this date. You will probably want to submit soon after the talk you attend.

## Events of potential interest<sup>3</sup>

- **Most Mondays**, 12-1p 1303 Dwinelle Hall. Phorum – the Berkeley Phonetics and Phonology Forum. Check the webpage (<http://linguistics.berkeley.edu/>) regularly for updates on talks, or contact the organizers Emily Clem ([eclem@berkeley.edu](mailto:eclem@berkeley.edu)) and Jack Merrill ([jtmm@berkeley.edu](mailto:jtmm@berkeley.edu)) to be put on the mailing list.
- **01/25**. Linguistics Department Colloquium – psycholinguist Fernanda Ferreira (UC Davis; <http://psychology.ucdavis.edu/people/fferreir>)
- **02/05-02/07**. BLS 42 (<http://linguistics.berkeley.edu/bls/>) – a conference hosted by Berkeley Linguistics grad students. *Interested in free registration? Ask about volunteering!*
- **04/18** Linguistics Department Colloquium – sociophonetician Alicia Beckford Wassink (University of Washington; <http://faculty.washington.edu/wassink/>)
- **04/25** Linguistics Department Undergraduate Colloquium – a showcase of Berkeley undergraduate research

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<sup>3</sup>Any of these events before the 4/19 deadline are appropriate for your talk attendance credit.