

# Linguistics 580: General Phonetics

Fall 2022, 38955D



**Time:** Tues 3:30 - 5:50

Possible additional zoom hour for practice in production and transcription

**Location:** TBA

**Professor:** Louis Goldstein

**Email:** [louisgol@usc.edu](mailto:louisgol@usc.edu) **Office Hours:** TBA

## Course Description

Phonetics is the study of the human speech system and how it is used for communication. This includes speech articulation, planning, and perception, along with their cognitive representation and its relation to phonology. It also includes areas of physics that are outside phonetics *per se*: dynamical systems, kinematics, acoustics, and aerodynamics, and computational tools for analysis of speech articulation and acoustics, simulation of speech processes, and use of speech data corpora. All of these concepts be developed in the course, which will also aim to develop a description of the range of distinct phonetic units and structures found in the languages of the world.

## Learning Objectives

In addition to a theoretical understanding of the the speech system, students will gain experience using the computational tools that can contribute to their own research trajectories. They will also gain practical experience producing and transcribing phonetic units from the languages of the world.

## Class Organization

Website for class materials is here: [https://sail.usc.edu/~lgoldste/General\\_Phonetics](https://sail.usc.edu/~lgoldste/General_Phonetics)

Assignments, lecture slides, exercise materials will be available there, NOT on Blackboard. Lectures will typically last 1.5 hours with the rest of the class devoted to working with the analysis and synthesis tools together. If possible, we will find an additional hour to meet on zoom for production and transcription practice.

## Required Work

- Each week reading will be assigned from the books (below) or articles. There will also be some self-grading assignments to assure understanding of the material, and weekly “laboratory” assignments involving speech tools.
- Final Take-home Exam
- Final project/paper

## Course Grading

- Final exam 25%
- Final project/paper 40%
- Homework 25%
- Participation 10%
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## Resources Required

### Books

Ladefoged, P. & Johnson, K. (2015). *A Course in Phonetics*. 7th ed. Palo Alto, CA: Cengage.  
I recommend getting the Kindle version

Audio materials and exercises are available here: <https://linguistics.berkeley.edu/acip/>

Gick, B., Wilson, I. & Derrick, D. (2013). *Articulatory Phonetics*. Malden, MA: Wiley-Blackwell.

Ladefoged, P. and I. Maddieson (1996). *Sounds of the Languages of the World*. Oxford: Blackwell.

### Software

Students will use PRAAT software to record their voice, and perform speech analyses. They will also use software written in MATLAB to analyze vocal tract movement and synthesize speech. They can both be downloaded free:

**PRAAT** can be downloaded from here: <http://www.praat.org>

**MATLAB** can be downloaded from here: <http://itservices.usc.edu/matlab/>

## Schedule of Topics

		Basic concepts
	23-Aug	Primitives: The gestural structure of speech
	30-Aug	Dynamical models of gestures
	6-Sep	Gestural Scores: Segments & gestures
	13-Sep	Introduction to Acoustics
	20-Sep	Syllable structure: phonology and gestural coordination
	27-Sep	Variation at Prosodic Boundaries: Temporal slowing & overlap
		Generating sound across languages
	4-Oct	Aerodynamics and Initiation
	11-Oct	Aerodynamics, laryngeal gestures & phonation
	18-Oct	Constriction Degree and Location
	25-Oct	Tone and Intonation
		Filtering and Resonance: acoustics, perception and vowels
	1-Nov	Modes and Perturbation Theory
	8-Nov	Speech Perception: Behavioral and neural evidence
	16–23-Nov	Vowel systems

## Statement on Academic Conduct and Support Systems

### Academic Conduct:

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, “Behavior Violating University Standards” [policy.usc.edu/scampus-part-b](http://policy.usc.edu/scampus-part-b). Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, [policy.usc.edu/scientific-misconduct](http://policy.usc.edu/scientific-misconduct).

### Support Systems:

*Counseling and Mental Health - (213) 740-9355 – 24/7 on call*

[studenthealth.usc.edu/counseling](http://studenthealth.usc.edu/counseling)

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

*National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call*

[suicidepreventionlifeline.org](http://suicidepreventionlifeline.org)

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

*Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL), press “0” after hours – 24/7 on call*

[studenthealth.usc.edu/sexual-assault](http://studenthealth.usc.edu/sexual-assault)

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

*Office of Equity and Diversity (OED) - (213) 740-5086 | Title IX – (213) 821-8298*

[equity.usc.edu](http://equity.usc.edu), [titleix.usc.edu](http://titleix.usc.edu)

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

*Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298*

[usc-advocate.symplicity.com/care\\_report](http://usc-advocate.symplicity.com/care_report)

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity | Title IX for appropriate investigation, supportive measures, and response.

*The Office of Disability Services and Programs - (213) 740-0776*

[dsp.usc.edu](http://dsp.usc.edu)

Support and accommodations for students with disabilities. Services include assistance in providing readers/ notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

*USC Campus Support and Intervention - (213) 821-4710*

[campussupport.usc.edu](http://campussupport.usc.edu)

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

*Diversity at USC - (213) 740-2101*

[diversity.usc.edu](http://diversity.usc.edu)

Information on events, programs and training, the Provost’s Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

*USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call*

[dps.usc.edu](https://dps.usc.edu), [emergency.usc.edu](https://emergency.usc.edu)

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

*USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call*

[dps.usc.edu](https://dps.usc.edu)

Non-emergency assistance or information.