

415 Phonetics
GFS 104 – Tu/Th 10 – 11:30 a.m.

Syllabus for Linguistics 415
Phonetics
Fall 2018

Time: Tuesdays & Thursdays 10 – 11:20 am

Place: GFS 104

Instructor: Prof. Sandra Ferrari Disner
GFS 301n
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Office hours: To be announced

Course description: The main goals of this course are:

- to be able to recognize, produce, and transcribe the sounds that occur in the world's languages;
- to understand how these sounds are articulated and what their acoustic characteristics are; and
- to begin to think about spoken language in context.

To these ends, you will first acquire a set of analytical tools and then apply them to selected words and phrases from the world's 7000+ languages. The framework for this study will be the International Phonetic Alphabet.

At the end of the semester, your ability to *produce* and *transcribe* the sounds of the world's languages will be tested. You will also be asked to write a detailed phonetic description of a language of your choice. This will be original research, based on recordings and analysis of a native speaker; there is no need to resort to printed texts beyond the initial structuring.

As you begin to master the sounds of the world's languages -- which are, in essence, a set of noises made with the eating and breathing apparatus -- we will attempt to discern commonalities between them, to link those commonalities to gestural or acoustic imperatives, and to consider the "design requirements" of a phonetic system.

We will also consider some of the confounding influences within the system -- variations that may be individual, social, geographical, attitudinal, and emotional in nature -- and extract them, to the extent possible.

Textbook: *A Course in Phonetics*, seventh edition, 2015, by Peter Ladefoged and Keith Johnson. [L&J]

Optional supplement: *Handbook of the Int'l Phonetic Association* (on reserve in Leavey)

Course Requirements:

1. Attendance and participation. Class meetings will involve lecture, discussion, language demonstrations, ear training and production practice. Class attendance and participation are very important, particularly for the latter two, which cannot be gleaned from books.

2. Optional practice in ear training, production, and spectrogram reading. Our class period officially extends to 11:50 a.m., though the lectures will end at 11:20. Those who would like to stay on for up to 10 minutes of ear training, phonetic production, and (later in the semester) 'mystery' spectrogram reading are encouraged to do so. These skills will, in the end, constitute at least 15% of the final grade.

3. Readings. The reading assignments are mainly from the textbook [L&J], but occasionally you will be asked to read articles from other sources. These will be available on Blackboard.

4. Problem sets. The largest single component of your course grade will be your cumulative score on the problem sets. These will help you to prepare for the midterm, and will serve to test your knowledge thereafter. The assignments listed on this syllabus are not definitive; there may be additions or deletions during the semester. To be certain, consult Blackboard regularly for upcoming assignments and due dates. *It is your responsibility to find out whether a problem set has been assigned.* But do not worry if you happen to miss one of these assignments; your lowest score of the semester will not be calculated into the grade.

A note on collaboration: General discussion of the assignments with other students is acceptable and encouraged, but you must arrive at the actual solutions to problems on your own and write them up on your own. Certain indicia make it quite apparent to an instructor when two students have collaborated. (Note that the instructor is a forensic linguist.)

Lateness policy: Points will be deducted from problem sets which are submitted late. But points will not be taken off when there is a valid and documented reason for the lateness, such as illness.

5. Practical exams. At the end of the semester, you will be tested (very briefly) on your ability to pronounce words written in the Int'l Phonetic Alphabet, and then, in turn, on your ability to transcribe into IPA the words of a foreign-language speaker. A few notoriously difficult sounds will be excluded from the production test, so, for example, do not panic if you simply cannot trill.

Grading Plan:

Homework assignments: **40%**, with lowest grade omitted

Midterm exam: **25%**

Practical exams:

 Production test: **8%**

 Transcription test: **7%**

Final project (phonetic survey of a language): **20%**

Academic integrity:

Students are expected to uphold the USC Student Conduct Code (<https://policy.usc.edu/scampus-part-b/>). Violations of the code (see <https://sjacs.usc.edu/students/academic-integrity/>) harm every student in the class. Any student who is found cheating on an exam or homework, or who facilitates cheating by another student, will receive no credit for that work. Further action will also be taken if necessary.

Students with disabilities:

Students needing special accommodations (e.g., longer exam time) due to a physical or learning disability should contact the instructor as early in the semester as possible, and should also contact Disability Services and Programs (DSP). The phone number for DSP is (213) 740-0776, or visit <https://dsp.usc.edu/students/>

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Tentative schedule of topics and reading assignments:

January 9 -- **Introduction.** Read Ladefoged & Johnson (L&J), chapter 1

January 11 -- Overview of **Articulation.** L&J chapter 1, continued

 Assignment due January 18: The following exercises from chapter 1 of L&J:
 A, D, E (11-18 only), & F. (Printable versions of all the exercises are available on the website associated with the textbook.)

January 16 -- Articulation, continued.

Phonetic Transcription. Read L&J chapter 2
 Citation form vs. standard speech vs. fast speech
 Broad vs. narrow transcription
 Use of Doulos font for IPA transcription.

January 18-- Transcription, continued.

Assignment due January 25: Exercises A - D from chapter 2 of L&J (but only the last five of each exercise).

Non-graded assignment: L&J ch. 2, performance exercises A-D.

January 23 – Remaining topics in transcription.

Consonants of English. Read L&J chapter 3

Introduction to aspiration, voicing, and other states of the glottis (to be taken up in more detail in ch 6); gestures and their overlap; features of English consonants.

January 25 -- Allophonic rules applying to English consonants. Secondary articulation.

Assignment due February 1: L&J ch. 3, Exercises A; D (*only* rules 12a, 13a, 14, 15, 16, with *two* examples each); and G (*only* the first sentence of "Arthur the Rat")

January 30 – Remaining topics in consonant articulation.

English Vowels. Read L&J chapter 4

Cardinal vowels. Auditory labels. "Physiological fantasy".

February 1 -- Vowels, continued. Accents of English.

Brief introduction to some vowels of other languages, and to their representation within the IPA framework. Secondary articulation of vowels

Assignment due February 8: L&J ch. 4, Exercises A and B; also H (1) - (4) only.

Non-graded assignment: Performance exercises A and E.

February 6 – **English Words and Sentences** (Stress and Intonation). Read L&J chapter 5

Primary & secondary stress; unstressed syllables. Tonic accent, intonation, ToBI.

Assignment due Feb 13: L&J ch. 5, Exercises A (5 examples only) and D (first 3 only)

February 8 -- The Larynx. Actions of the laryngeal musculature and cartilages

Watch "Larynx film festival"; links on Blackboard.

February 13 -- **Suprasegmentals.** Read L&J, chapter 10, but omit section on timing.

Syllables and the sonority hierarchy. Stress (continued), length, timing and tone.

February 15 -- Suprasegmentals (continued).

States of the Glottis. Read L&J chapter 6, pp. 148-157 only.

Phonation types: Breathy, creaky & modal voice. Degrees of aspiration & voicing. Voice onset time in the world's languages.

Assignment to be handed in on February 22: Exercises C & D, pp. 166-7.

Do the following for practice; these will not be graded:

Thai listening assignment (on Blackboard)

Performance Exercises A, D, E, F, G on pp. 168-9.

February 20 -- States of the glottis (phonation types) continued.

Airstream mechanisms. Read L&J chapter 6, pp. 136-147

Listen to recordings 6.1, 6.2, 6.3, 6.4 (on website)

- February 22 -- Airstream mechanisms, continued.
Listen to recordings 6.8, 6.9, 6.10 (on website).
Do the following for practice, but no need to hand in:
Xhosa listening assignment (on Blackboard); refer to Table 6.3; recording 6.4.
- February 27 -- **Consonantal gestures.** Read L&J chapter 7.
Consonant articulation in the languages of the world. [Dr. Mona Lindau, guest spkr]
- March 1 -- Consonantal gestures, continued.
Assignment, to be handed in March 6: A classification exercise (on Blackboard), drawing from the categories on p. 193
Do the following for practice, but no need to hand in:
Quechua listening assignment (on Blackboard); refer to Table 7.3.
- March 6 -- Review for midterm
- March 8 -- Midterm exam
- March 20 -- **Acoustics.** Read Johnson, *Acoustic and Auditory Phonetics* Chapter 1.1-1.3.3 (posted on Blackboard)
Waves and aperiodic noise.
- March 22 -- Acoustic analysis. Introduction to Praat waveform editor.
Measurement of pitch and duration.
Physical indicia of periodic sound waves and of aperiodic noise.
- March 27 -- **Acoustic Phonetics.** Part A: Vowels
Read L&J chapter 8, pp. 197-208 only.
Source/filter theory. Vowel resonances. Formants.
- March 29 -- The acoustics of vowels (continued).
Plot vowel formants on an acoustic chart.
Distinguish the formants that convey linguistic information from those that convey speaker identity.
Assignment, due April 5: "Measuring the formant frequencies of your own vowels" (Part I only, posted on Blackboard)
- April 3 -- Acoustic phonetics, part B: Consonants
Read L&J chapter 8, pp. 208-225.
Formant transitions. Fricative noise. "Reading" uncaptioned spectrograms.
Non-graded exercise, due April 10: Figure out the sentence in question C, p. 226.
- April 5 -- Suprasegmentals (tone, stress, length).
Spectrogram reading.
Read L&J chapter 9.
Assignment due April 12: Phonetic length (courtesy of L. Goldstein) on Blackboard

April 10 – **Vowel features** in the languages and of the world. Contrastive features including lip rounding, advanced tongue root, nasalization, and rhotacization. Read excerpts from *The Sounds of the World's Languages* by Ladefoged and Maddieson (on Blackboard)

April 12 -- Vowel features, continued. Beyond SAE: regional differences in the USA. Supplementary reading from Wm. Labov to be posted on Blackboard. More spectrogram reading (time permitting)

April 17 -- **Linguistic Phonetics.** Read L&J chapter 11: Balance between factors favoring the speaker and the listener.

April 19 -- Speech technology. Is it possible to detect vocal deception? Read Eriksson, A. & Lacerda, F. "Charlatanry in forensic speech science". *Intl J. Speech Lang. Law* 14, 169–173 (2007).

April 24 -- **Production test** of IPA sounds, at 10-minute intervals during class time.

April 26 -- **Transcription test** of an unrevealed foreign language. Brief course summary.

May 8, 8-10 a.m. -- Term papers to be submitted in hardcopy.

Throughout the semester, demonstrations of some or all of the following languages will be provided:

Egyptian Arabic	Prof. Khalil Iskarous
Finnish	Prof. Elsi Kaiser
Bengali	TBA
Swedish	Dr. Mona Lindau
Russian	Prof. Robert English
Vietnamese	Binh Ngo
Italian	Prof. Antonio Idini
Mandarin	Yifan Yang
Turkish	Betul Erbas
Gujarati	TBA
Tamil	Prof. Shri Narayanan