

CAS LX 301 / GRS LX 601
Phonetics & Phonology: Introduction to Sound Systems

Fall 2018

MWF 10:10–11:00, CAS 237

Instructor:	Charles Chang	Office Hours:	Tue 12:30–3:30 (in person),
Office:	617 Comm Ave, Room 116		Thu 10:30–11:30 (Slack)
Contact:	✉ cc@bu.edu (preferred)		or by appointment
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Course Website: <on Blackboard Learn>

Course Description: The aim of this course is to introduce the student to the scientific study of speech as this relates to the description and explanation of language sound systems. It provides training in the production, perception, physiological and acoustic description, and transcription of the speech sounds used in the languages of the world; an overview of phonetic representations and models, including the International Phonetic Alphabet, acoustic theory of speech production, Quantal Theory, models of prosodic structure, and theories of speech perception; and some of the essential background for courses in phonological theory. The course includes laboratory work that familiarizes the student with computer-based speech analysis in the free software package Praat, as well as activities requiring students to think critically about layperson perceptions of specific speech varieties, especially those associated with marginalized populations. Graduate students also carry out a research project drawing upon transcription skills along with other methods of observation to describe the sound system of an unfamiliar language.

Through the use of quantitative methods, empirical data collection and analysis, and evidence-based consideration of public discourse, the course leads to learning outcomes in the following Hub areas: QUANTITATIVE REASONING I, SCIENTIFIC INQUIRY II, and CRITICAL THINKING.

Learning Outcomes:

1. QUANTITATIVE REASONING I: Students will be able to (a) demonstrate an understanding of fundamental quantitative methods used in linguistic phonetics, (b) interpret quantitative phonetic data and understand standard methods of depicting them graphically, (c) communicate quantitative information about speech symbolically, visually, and numerically, and (d) identify and describe the capacity and limitations of quantitative methods in relation to the study of language sound systems. To this end, students will practice using a variety of quantitative tools, including mathematical formulae, descriptive statistics, and graphic representations, both to make predictions and to draw conclusions.
2. SCIENTIFIC INQUIRY II: Students will be able to apply principles and methods from the natural sciences (including biology, chemistry, and physics) to address questions related to language sound systems. To this end, students will practice collecting and interpreting phonetic data in order to answer questions about speech production, speech perception, and language sound patterning. They will also acquire the ability to recognize, produce,

and describe a wide range of sounds in the world's languages in terms of physical dimensions, and will become adept at analyzing phonological patterns in a language and relating them to phonetic factors (such as physiology, coordination, and aerodynamics).

3. **CRITICAL THINKING:** Students will be able to (a) identify key elements of critical thinking and (b) evaluate the validity of arguments. To this end, students will practice recognizing logical fallacies and cognitive biases, as well as distinguishing normative judgments from empirical claims about matters of fact, through exercises evaluating layperson perceptions of specific speech varieties in light of relevant phonetic evidence.

Prerequisites: CAS LX 250 Introduction to Linguistics or equivalent, or instructor approval.

Requirements: background reading, in-class exercises, homework assignments, midterm exam, final exam (+ research project, for graduate students).

Grading:

35%	homework assignments [best 7 of 8]	(CAS LX 301)
15%	midterm examination	
35%	final examination	
15%	participation	
24%	homework assignments	(GRS LX 601)
20%	midterm examination	
26%	final examination	
30%	research project	

Grade components will be weighted according to the above percentages to calculate a final grade out of 100, which will correspond to a grade for the course as follows:

<i>Course Grade Scale</i>	≥ 93.00	= A	78.00–79.99	= C+
	90.00–92.99	= A–	73.00–77.99	= C
	88.00–89.99	= B+	70.00–72.99	= C–
	83.00–87.99	= B	60.00–69.99	= D
	80.00–82.99	= B–	< 60.00	= F

Required Textbooks: Ladefoged, Peter, and Keith Johnson. (2014). *A Course in Phonetics*. 7th edition. [ISBN-10: 1285463404, ISBN-13: 978-1285463407]

Johnson, Keith. (2011). *Acoustic and Auditory Phonetics*. 3rd edition. [ISBN-10: 1405194669, ISBN-13: 978-1405194662]

Helpful: International Phonetic Association. (1999). *Handbook of the International Phonetic Association*. [ISBN-10: 0521637511, ISBN-13: 978-0521637510]

- Other Readings:** Catford, John C. (1982). *Fundamental Problems in Phonetics*. Bloomington: Indiana University Press.
- Lieberman, Philip, and Sheila Blumstein. (1988). *Speech Physiology, Speech Perception, and Acoustic Phonetics*. Cambridge: Cambridge University Press.
- Odden, David. (2005). *Introducing Phonology*. Cambridge: Cambridge University Press.
- Perrier, Pascal. (2006). "About speech motor control complexity." In J. Harrington and M. Tabain (eds.), *Speech Production: Models, Phonetic Processes, and Techniques*, pp. 13–25. New York: Psychology Press.

Expectations for Students:

Background Reading: Classes will refer to concepts described in the reading, so it will be most helpful to you to complete the assigned reading *before* coming to class. Class is meant to supplement the reading, and assignments or exams may draw upon data or examples in the reading not explicitly discussed in class. Any required readings beyond the required textbook will be provided via the library's electronic course reserves or the course website. Please see the Copy-right Notice below regarding reading and other course materials.

Homework Assignments: Assignments will typically consist of a mix of data analysis and interpretation in light of theoretical principles discussed in class. They will require answers written in complete sentences; in writing up your responses, keep in mind that these are exercises in applying knowledge. Also, because possible responses to assigned questions may be discussed in class on the day that the homework is due, **homework must be submitted—typed, both in electronic copy (via Blackboard) and in hard copy (in class)—by the beginning of class (i.e., by 10:10, not 10:30), and late homework cannot be accepted.** For undergraduates, the lowest homework grade will be dropped.

Examinations: There will be two sit-down exams. The midterm exam will be given during the seventh week of classes, and it will be in two parts: a short oral part (scheduled by appointment) and a longer written part (given during the regularly scheduled time for this course). The final exam will be given during the regularly scheduled exam time for this course (**Monday, December 17, 9am–11am**), and it will be comprehensive. Make-up exams are given at the discretion of the instructor only in exceptional circumstances (e.g., medical emergency, religious obligation). In the case of a known conflict such as a religious holiday, please provide the instructor with written notice of the conflict well in advance.

Research Project (for GRS LX 601 registrants): This is a field project, a from-scratch phonetic description of an unfamiliar language (i.e., one you have no previous knowledge of) done in collaboration with a native-speaker consultant. It is intended as a practicum for using the observational methods and symbolic representations associated with the phonetic models covered in the class, and for appreciating the role of fieldwork in broadening our knowledge of linguistic diversity. The instructor will discuss the particulars of this project with enrolled graduate students in more detail at a later date. A proposal for the project is due at the end of the fourth week of classes (by **5 PM on Friday, September 28**), and the final write-up is due at the end of the study period (by **5 PM on Sunday, December 16**).

Participation: Active and constructive participation in class is expected, and will be factored into course grades for undergraduates. Given that you cannot participate in class if you are absent, chronic absence from class will affect your final grade. If you find yourself suffering from illness, please (a) go to the doctor, and then (b) alert the instructor.

Copyright Notice: All class materials are copyrighted and may not be redistributed to third parties (not registered for the course) or reproduced for anything other than personal use without written permission from the instructor.

Academic Integrity and Support: You are responsible for understanding and complying with the BU Academic Conduct Code in this course (to review the Academic Conduct Code, please see <http://www.bu.edu/academics/policies/academic-conduct-code/>). Graduate students, take note of the GRS Academic Conduct Code: <https://www.bu.edu/cas/current-students/ma-and-ms-students/academic-policies-and-conduct-code/>. It is assumed, unless you indicate otherwise, that your work in this course is your own. **Work found to be the product of academic dishonesty can receive no credit, and such misconduct must be reported to the university.** If you are experiencing difficulties in keeping up with the academic demands of this course, please consider contacting your academic advisor (or CAS's Office of Academic Advising: 100 Bay State Rd., Room 401, casadv@bu.edu, 617-353-2400).

Collaboration Policy: Although you are welcome to brainstorm about the homework with your classmates in a study group, **your written work should be entirely your own.** That is to say, regardless of whether or not you participate in a study group, you are expected to **write up your responses separately (and to explicitly acknowledge any and all collaboration and/or sources consulted)**, in accordance with the Academic Conduct Code. To prevent any misunderstanding, writing up your responses separately does not include:

1. writing up your responses during a study group meeting
2. writing up your responses after a study group meeting while talking back and forth remotely to one or more of your collaborators (over the phone, via text, via IM, etc.)
3. writing up your responses while consulting a collaborator's write-up "for reference"
4. effectively drafting a joint write-up during a study group meeting and then later individually "fleshing out" that joint write-up

Writing up your work separately does not mean using separate computers. It means putting your thoughts into words on your own—that is, without simultaneous discussion with your collaborators, without later discussion with your collaborators, without consultation of minutes taken during a study group meeting that are so detailed they basically constitute a joint write-up. In short, at the time you produce the written work you hand in, you should not be in the physical or virtual presence of any collaborators and should have nothing other than a computer, your homework sheet, and your textbook plus any class notes. Note that if you elect to collaborate on homework and do not feel confident that you can distinguish between jotting down a few notes and creating a joint write-up, you are advised to refrain from taking any written notes during a study group meeting and just pay close attention to your group's discussion. Any collaboration should help you to think, not to write. Please see the instructor if you have any questions.

Arrangements for Students with Disabilities: If you require course material in an alternative format or need special accommodations due to a disability, please contact the instructor and the Office of Disability Services (<http://www.bu.edu/disability/>) as soon as possible.

Communication: Announcements regarding class cancellation, room change, and other timely news may be communicated via Slack (primarily) or Blackboard (secondarily), so please make sure you are able to receive messages from both Slack and Blackboard. In addition, you are very welcome to come with any questions to the instructor’s office hours, including a weekly online “office” hour (in Slack), and you may also make an appointment outside of these times if you cannot make it to office hours.

A Note on Technology: Students are welcome to bring their personal computers or tablets to class, but are expected to use any technology respectfully—that is, *for the sole purpose of aiding in the learning of course material while not distracting fellow students*. Although it is tempting when you have a computer to multitask and, e.g., switch between Word, Instagram, and email, note that this is very likely to be detrimental not only to your own learning, but also to the learning of those around you (for more, see Sana et al., 2013, “Laptop multitasking hinders classroom learning for both users and nearby peers,” *Computers & Education*, 62, 24–31; <http://dx.doi.org/10.1016/j.compedu.2012.10.003>). Note also the evidence in favor of taking notes by hand instead of by computer (for more, see Mueller & Oppenheimer, 2014, “The pen is mightier than the keyboard: Advantages of longhand over laptop note taking,” *Psychological Science*, 25, 1159–1168; <http://dx.doi.org/10.1177/0956797614524581>). Consequently, the instructor reserves the right to ban the use of computers in class if they become a hindrance. You will never need your cell phone for note-taking, so please silence it and put it away during class.

Schedule (with Due Dates)

DATES	TOPIC & READING	WORK DUE
09/05–09/07	Introduction to the study of speech Reading: —	
09/10–09/14	Phonetic transcription Reading: L&J, Chapters 1–2	
09/17–09/21	The phonetics of American English Reading: L&J, Chapters 3–4	Homework 1 due 09/21
09/24–09/28	Consonants across the world Reading: L&J, Chapters 6–7	PROJECT PROPOSAL due 09/28 (graduate students)
10/01–10/05	Vowels across the world Reading: L&J, Chapters 9–10	Homework 2 due 10/05
10/09–10/12	Prosody across the world Reading: L&J, Chapter 5	Homework 3 due 10/12
10/15–10/19	Midterm review Reading: —	ORAL MIDTERM 10/17–10/18 WRITTEN MIDTERM 10/19
10/22–10/26	Acoustic phonetics Reading: Johnson, Chapters 1 & 3	
10/29–10/31	Acoustic phonetics Reading: Johnson, Chapters 2 & 6 NO CLASS ON 11/02 (BUCLD 43)	Homework 4 due 10/31
11/05–11/09	Acoustic phonetics & motor control Reading: Lieberman, Chapter 6	Homework 5 due 11/09
11/12–11/16	Motor control and aerodynamics Reading: Perrier	Homework 6 due 11/16
11/19	Speech aerodynamics Reading: Catford, Chapters 3, 7, 8	
11/26–11/30	Speech perception Reading: Johnson, Chapters 4–5	Homework 7 due 11/30
12/03–12/07	Phonetics and phonology Reading: Odden, Chapter 3	Homework 8 due 12/07
12/10–12/12	Phonology, flex week	
12/13–12/16	STUDY PERIOD	RESEARCH PROJECT due 12/16 (graduate students)
12/17–12/21	EXAM PERIOD	FINAL EXAM on 12/17