

**LING 693: PHONETICS**

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This course introduces students to the nature of human speech production and perception and the nature of the acoustic signal that is transmitted from speaker to listener. The main course goals are:

- (1) To understand fundamental principles of phonetic variation and phonetic theory. We will study current theories on how speakers coordinate articulatory movements to give rise to the structured but highly variable speech signals and how listeners use the variable information from the signals to determine what speakers are saying.
- (2) To introduce students to phonetic experimentation and analysis. Small-scale experiments will provide training in acoustic analysis and perceptual testing.
- (3) To consider the relation between physical aspects of the speech sounds and their cognitive, or phonological, representations.
- (4) To provide practical experience in producing and transcribing sounds of the world's languages.

**Readings**

Texts: Johnson, K. 2011. *Acoustic & Auditory Phonetics*. 3<sup>rd</sup> ed. Wiley-Blackwell.  
 Ladefoged, P. & Johnson, K. 2015. *A Course in Phonetics*. 7<sup>th</sup> ed. Cengage Learning.  
 (Note: Talk to me if you have previous editions of these textbooks.)

Additional required readings are on the Blackboard course site.

Excellent resources for all students of linguistic phonetics:

Raphael, L., Borden, G., & Harris, K. 2011. *Speech Science Primer*. 6<sup>th</sup> ed. Lippincott Williams & Wilkins.  
 Ladefoged, P. & Maddieson, I. 1996. *The Sounds of the World's Languages*. Blackwell.

**Course requirements**

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| 1. In-class acoustics exam:  | 15% |
| 2. Assignments (4):  | 40% |
| 3. Dictations (3) and production exam:   | 15% |
| (Make-up dictations will not be given, except in extraordinary circumstances.<br>Lowest of the 3 dictation + production scores will be dropped.) |     |
| 4. Term project/paper:   | 20% |
| 5. Participation:  | 10% |

**Course-related tools**

- **Course website.** Blackboard Course Site will be used for posting announcements, handouts, copies of lecture notes, and sound files. Students should log on to the website frequently (minimally, the day before class, but more often will likely be necessary, especially as the term progresses). Please let me know if you have any questions about the site, or run into any difficulties using it.
- **Praat.** The acoustic analysis program that we'll be using, Praat, is downloadable from <http://www.fon.hum.uva.nl/praat/>.

**Mason Phonetics and Phonology Lab (PhonLab)**

Mason PhonLab is located in Horizon Hall 3133. For physiologic measures, the lab has a portable ultrasound system for imaging tongue body movement during continuous speech. For acoustic and perceptual studies, the lab has high-quality recording equipment, a sound attenuated booth, several

acoustic analysis packages, and software and hardware for running a wide range of perceptual testing. Contact me if you want to use the lab.

### **COVID-19 related concerns/issues**

- As a member of GMU community, you're required to follow all university guidelines related to COVID-19 (<https://www2.gmu.edu/safe-return-campus>), including face coverings, physical distancing, and hygiene. Face coverings are required, as of August 11, 2021, in all campus buildings, and therefore in this class. Note that the face coverings should meet safety specifications, be worn correctly, and be socially appropriate.
- We are all responsible for protecting the health, safety, and well-being of ourselves and our community. If you're experiencing any symptoms of COVID-19, or if you discover you've been in close contact with others who have symptoms or who have tested positive, you must follow the instructions on the Mason COVID Health Check™.
- If you're going to have multiple COVID-19 related absences, please be in touch with me to let me know what is going on at your earliest convenience. We will work together to keep you on track and engaged with the course. Please provide me with medical documentations, when possible.

### **Communication**

- I am happy to correspond with you over email for short exchanges or if you need to make an appointment. If your question likely requires more than a few sentences, please come to office hours or make an appointment with me. In general, you can expect me to answer a short email within 48 hours, except between 5pm on Friday and 9am on Monday or as otherwise noted.
- Please plan to check your email regularly for updates about the class. I do not plan to bombard your inbox, but I do expect you to receive email that I send about the class. This may mean that you need to check and alter your Blackboard notification settings.

### **Classroom etiquette**

- It is important to cultivate a learning environment that is equitable and inclusive for all participants, regardless of their background. If there is something you think is upsetting the classroom environment or getting in your way of participating, please come talk to me and we can try to find a way to remedy the situation.
- Regarding electronic devices (such as laptops, cell phones, etc.), please be respectful of your peers and your instructor and do not engage in non-class-related activities (e.g., email, social media, news).

### **Academic integrity**

All students are expected to adhere to the George Mason University Honor Code. For a full description of the code and the honor committee process including definitions of cheating, stealing, lying, and plagiarism, please see the Office for Academic Integrity website at <https://oai.gmu.edu>. Any suspected academic misconduct will be turned over to the Office of Academic Integrity for inquiry.

### **Special needs**

- If you think you need an accommodation for a disability, please let me know at your earliest convenience and contact Disability Services (993-2474; [ds.gmu.edu](https://ds.gmu.edu)). All academic accommodations must be arranged through Disability Services.
- If a class or due date conflicts with a religious holiday, please notify me as soon as possible, but **no later than two weeks prior to the holiday**, so that any necessary arrangements can be made.

### **Registration dates**

- Last day to add: Aug 30, 2021
- Last day to drop without tuition penalty: Sep 07, 2021
- Drop with tuition penalty (and final drop deadline): Sep 14, 2021

## Tentative schedule

Note this schedule is subject to change depending on the needs of the class or in event of unforeseen circumstances.

AAP = Johnson's *Acoustic & Auditory Phonetics*; CIP = Ladefoged & Johnson's *A Course in Phonetics*

DATE	TOPIC (READINGS)	READINGS/ASSIGNMENTS
8/25	Introduction	
9/1	<b>Production:</b> Initiation & Phonation	CIP Ch 6 (Chs 1-2 are optional, but highly recommended if you are less comfortable with phonetics/phonology at undergraduate level.)
9/8	<b>Production:</b> Consonantal articulation <b>Lab:</b> Introduction to Praat + measuring voice onset time ( <i>bring your laptop</i> )	CIP Chs 3 & 7
9/15	<b>Production:</b> Vowels; Prosody <b>Lab:</b> Ultrasound demonstration	CIP Chs 4, 9 (pp. 227-232; 238-242), 10 (Optional: Ch 5) <b>Assignment 1</b>
9/22	<b>Production:</b> Theories of speech production <b>Lab:</b> Sounds of English	<i>Readings TBD</i>
9/29	<b>Acoustic phonetics:</b> Acoustics of the vocal tract; <b>Lab:</b> Sound of World's Languages 1	AAP Chs 1, 2, & 5 (omit pp. 97-100) <b>Term project report 1</b>
10/6	<b>Acoustic phonetics:</b> Vowel spectra; Digital signal processing <b>Lab:</b> vowel formants ( <i>bring your laptop</i> )	AAP Chs 3 & 6
10/13	<b>Acoustic phonetics:</b> Acoustics of consonants <b>Lab:</b> Sound of World's Languages 2, <b>Dictation 1</b>	AAP Chs 7-9 <b>Assignment 2</b>
10/20	<b>Perception:</b> Hearing and psychoacoustics; The task of speech perception <b>Lab:</b> Sound of World's Languages 3	AAP Ch 4; Beddor 2017 (pp.1-7) OR Diehl et al. 2004 <b>Assignment 3</b>
10/27	<b>Acoustics exam</b> <b>Perception:</b> Vowel perception	Strange 1999 OR Hillenbrand 2013
11/3	<b>Perception:</b> Categorical perception <b>Lab:</b> Sound of World's Languages 4, <b>Dictation 2</b>	Diehl et al. pp.155-159 (Optional: Raphael et al. pp.237-249) <b>Term project report 2</b>
11/10	<b>Perception:</b> Theories of speech perception <b>Lab:</b> Sound of World's Languages 5	Lieberman & Mattingly 1985; Fowler 1996 <b>(Schedule your production exam: 11/11-30)</b>
11/17	<b>Perception:</b> Malleable perception <b>Lab:</b> <b>Dictation 3</b>	Diehl et al. pp.160-164; <i>additional reading TBD</i> <b>Assignment 4</b>
11/24	Happy Thanksgiving!	
12/1	Phonetics-phonology relation <b>Presentation of term projects</b>	Ohala 1981 <b>Term project final report due on 12/8</b>