COMM 119: Voice and Its Perception

UCLA, Winter 2020
Instructor: Anne S. Warlaumont (warlaumont@ucla.edu)
Teaching Assistant (TA): Jessica Shropshire (jshropsh@g.ucla.edu)

Meeting time and place
Class meets on Mondays and Wednesdays from 2:00–3:15pm in Haines Hall A2.

Course description
The human voice conveys information about speaker identity, physical characteristics, emotional state, gender, and so on. This course will cover how vocal signals are produced, the vocal tract properties and acoustic signatures that signal these different properties to listeners, and relevant acoustic analysis and voice synthesis methods. Besides learning these content and methods, we will build skills in designing, executing, interpreting, evaluating, and presenting scientific work in this area.

Course website
CCLE will be used to make announcements; to post readings, lecture slides, assignment instructions, syllabus updates, and other materials; for assignment submission; and to post and submit grades.

Attendance, participation, and equipment
Class attendance and participation are expected, but not officially recorded.

Please help create a fun and constructive classroom environment by turning off distractors (such as cell phones, messages, email) and engaging actively with the material and with your classmates and instructors.

This class includes hands-on activities, for which you will need to bring a laptop with Praat installed: http://www.fon.hum.uva.nl/praat/. On Windows and Mac machines, download and installation of Praat takes just a few minutes and does not require administrator privileges, so if you don’t have a machine of your own to bring, you might look into borrowing one from the UCLA library or from a friend.
Grades

Grades for the course will be based on weekly take-home open-book quizzes, two hands-on assignments, and a cumulative closed-book final exam, which will have questions based on material covered in the quizzes.

The grade breakdown will be:
7 Quizzes: 5% of your final grade each, for 35% of your final grade all together
Assignment 1: 20% of your final grade
Assignment 2: 25% of your final grade
Final exam: 20% of your final grade

If you have extenuating circumstances such as illness, death in the family, or a special event, please send an email to both Jessica (jshropsh@g.ucla.edu) and Anne (warlaumont@ucla.edu) as soon as you are able so that we can negotiate a fair and reasonable accommodation.

Academic Integrity

All students must abide by the UCLA student conduct code: http://www.deanofstudents.ucla.edu/Student-Conduct

Accommodations for students with disabilities

Students needing academic accommodations based on a disability should contact the Center for Accessible Education (CAE) at (310) 825-1501 or in person at Murphy Hall A255. When possible, students should contact the CAE within the first two weeks of the term as reasonable notice is needed to coordinate accommodations. Please note that it is the student’s responsibility to register with CAE so that they have enough time to receive their accommodations; the instructors cannot provide them directly. For more information visit www.cae.ucla.edu.

Warlaumont Bio

I am an Associate Professor in the Department of Communication at UCLA and director of the Warlaumont Emergence of Communication Laboratory. I earned my BA in Psychology with a Cognitive Science Certificate in 2006 and my PhD in Communication Sciences and Disorders with a Cognitive Science Concentration in 2012 from the University of Memphis. From 2012–2017 I was Assistant Professor of Cognitive and Information Sciences at UC Merced. My research focuses on infant vocal learning, evolution of human vocalization, and computational modeling in these domains, especially focusing on neural and social mechanisms. You can find more information about me and my research at www.annewarlaumont.org.
Shropshire Bio

I am a 5th year graduate student in the Social Psychology program at UCLA. I am originally from Tucson, Arizona and did my undergraduate degree in Psychology at Arizona State University in Phoenix Arizona. My research focuses on the role of face and body cues in informing our perception and evaluation of other people, particularly in an occupational context. I answer questions like how does a woman's femininity influence the extent to which she is perceived to be a credible scientist, a viable athlete, and how does this change when intersecting with other identities such as race? Outside of research, I enjoy attending art exhibits in Los Angeles and I watch a lot of movies.

Office Hours

Anne will hold office hours in 2319 Rolfe Hall from 2:00–3:15pm on Fridays and by appointment (email warlaumont@ucla.edu).

Jessica will hold office hours in Franz 5526 (this is the fifth floor of the Tower building, that’s the one right behind next to the inverted fountain that is under construction) from 12:30–1:30pm on Mondays and by appointment (email jshropsh@g.ucla.edu).

Schedule

**Week 1:**
1/6: Introduction  
1/8: Introductory exercise  
**Assigned reading:** Kent (2002) pp. 2–13  
**Quiz 1:** take-home, open book, 1 hour time limit, open from 9am on 1/13 to 5pm on 1/17

**Weeks 2 & 3:**
1/13: Spectral analysis  
1/15: Spectrograms  
1/22: Visualization exercise  
**Assigned reading:** Ghazanfar & Rendall (2008)  
**Quiz 2:** take-home, open book, 1 hour time limit, open from 9am on 1/27 to 5pm on 1/31

**Week 4:**
1/27: Pitch  
1/29: Pitch estimation exercise  
**Assigned reading:** Fernald et al. (1989)  
**Quiz 3:** take-home, open book, 1 hour time limit, open from 9am on 2/3 to 5pm on 2/7

**Week 5:**
2/3: Formants  
2/5: Formant estimation exercise  
**Assigned reading:** Kent (2002) pp. 18–22  
**Quiz 4:** take-home, open book, 1 hour time limit, open from 9am on 2/10 to 5pm on 2/14
Assignment 1: submissions open from 9am on 2/17 to 5pm on 2/21

Week 6:
2/10: Voice manipulation
2/12: Voice manipulation exercise
Assigned reading: Klofstad et al. (2012)
Quiz 5: take-home, open book, 1 hour time limit, open from 9am on 2/17 to 5pm on 2/21

Weeks 7 & 8:
2/19: Machine learning methods
2/24: Machine learning exercise
2/26: Machine learning ethics
Assigned readings: TBD
Quiz 6: take-home, open book, 1 hour time limit, open from 9am on 3/2 to 5pm on 3/6

Week 9:
3/2: Articulatory synthesis
3/4: Articulatory synthesis exercise
Assigned readings: TBD
Quiz 7: take-home, open-book, 1 hour time limit, open from 9am on 3/9 to 5pm on 3/13
Assignment 2: submissions open from 9am on 3/9 to 5pm on 3/13

Week 10:
3/9: TBD with student input
3/11: TBD with student input

Final Exam:
3/18: 11:30–2:30pm (will hopefully be done on CCLE but we can use paper copy as backup; you may do the exam in the official space at the designated time, or on your own on the honor system before this date)