

LING 120 LABORATORY PHONETICS

TR 9:30-10:50 4140 Haworth
W 2:30-3:20

Instructors: Clifton Pye, 424 Blake, 4-2870, <pyersqr@ukans.edu>
Makoto Kariyasu, 3031 Dole, 4-0642 <kariyasu@kuhub.cc.ukans.edu>
Kyuchul Yoon, 427 Blake, <kcyoon@ukans.edu>

Office hours: Pye, M 1-3 or by appointment
Kyuchul, TWR 4-5 or by appointment

Textbook: *Acoustic & Auditory Phonetics* by Keith Johnson

This course provides students with an introduction to the acoustic structure of speech and its applications. Emphasis will be placed on the methods and standards by which scientists evaluate the physical characteristics of speech. Topics will include: simple harmonic motion, pressure waves, frequency/pitch, intensity/loudness, resonance, Bernoulli's principle, short and long-duration spectral analysis, speech synthesis, and speaker and cross-linguistic effects. The laboratory sections for the course will provide students with an opportunity to experiment with different aspects of the speech signal.

This will be the first time that this course has been offered, so we will make the class into a laboratory for testing the course material. For this test to be a success, it is essential that you attend every session. We will discuss the material in the textbook in each class, and demonstrate the acoustic principles on the spectrograph. Most of the class will be devoted to showing you how to use the spectrograph to analyze specific speech features. We will solicit your input about the presentation of material in the text and lab in each class. Sixty percent of your grade will be based on your attendance, twenty percent of your grade will be based on the exercises we will analyze in class (a further inducement to come to class), and the remaining twenty percent of your grade will be based on a project that you design and implement in consultation with the instructors.

Any student who has a disability which may prevent his/her ability to participate fully in the course should contact the instructor as soon as possible so that the class requirements can be discussed.

Schedule

Date	Reading
Jan. 19	Introduction to acoustic phonetics and Multispeech
Jan. 26	Chap. 1: Basic acoustics and acoustic filters
Feb. 2	Chap. 2: Digital Signal Processing
Feb. 9	Chap. 3: Basic Audition
Feb. 16	Chap. 4: Deriving Schwa
Feb. 23	Chap. 5: Vowels
Mar. 2	
Mar. 9	Chap. 6: Fricatives
Mar. 16	
Mar. 23	Spring Break
Mar. 30	Chap. 7: Stops and Affricates
Apr. 6	
Apr. 13	Chap. 8: Nasals and Laterals
Apr. 20	
Apr. 27	Suprasegmentals
May 4	