

Speech Science: COMD 6305

Fall 2006/ Thurs 2:30 – 5:15 pm, CJ 108

Instructor: William F. Katz (x 3188), wkatz@utdallas.edu

Office hours: Before lecture (Th. 1:30-2:15) and by appt.

Pre-requisites: None.

COURSE DESCRIPTION: This course will provide a thorough review of the anatomy, physiology, and functional organization of speech. The goal is to provide you, the graduate student, with a solid understanding of the mechanisms of normal speech production and perception, so that you may eventually apply this information clinically.

REQUIRED TEXT: Kent, R. (1997). The Speech Sciences . San Diego: Singular.

COURSE REQUIREMENTS: Class participation is encouraged and noted. There will be periodic quizzes, a midterm, and a final exam. The TA will hold weekly study sections to review concepts from the lecture, provide sample quiz questions, and discuss study sheets for exams. In the second part of the semester we will visit a speech production lab to get hands-on experience with speech instrumentation.

This course has been designed to ensure that students demonstrate required knowledge and skill as outlined in the Standards and Implementation Guidelines for the Certificate of Clinical Competence in Speech-Language Pathology. The specific standards addressed in this class are: III-B, III-C, III-E, IV-B, IV-G.

COURSE LEARNING OBJECTIVES

After completing the course students should be able to:

- 1) Identify the anatomy of the speech production mechanism. (III-B)
- 2) Discuss and explain speech respiration, phonation, and resonance. (III-B)
- 3) Describe the neural basis of speech production and perception. (III-B)
- 4) Show abilities of basic acoustic speech analysis, including speech digitizing, playback, and spectrographic analysis. (III-B, III-C, IV-B, IV-G).
- 5) Analyze and classify spectrograms of American English, including key features of place, manner, and voicing. (III-B).
- 6) Discuss and contrast theories of speech perception (III-B, III-C).
- 7) Identify properties of speech science relevant to speech pathology practice. (III-C, III-E, IV-B, IV-G).

GRADING POLICY: Quizzes, 20%; Midterm, 40%; Final, 40%.

IMPORTANT NOTE: Speech science is an interdisciplinary field involving many kinds of knowledge, including anatomy, physiology, physics, and linguistics. Many new terms will be introduced. It is therefore essential you complete the assigned readings BEFORE each class lecture. Thanks!

CLASS SCHEDULE

Dates	Topics	Chapters	Media
8-17	Introductory lecture; Review of terms for Anatomy & Physiology of Speech	Katz	Hand out ASHA articles
8-24	Briefly discuss ASHA article; Respiration; Respiratory breakdowns that affect speech production	1,3 4 (pg. 71-100)	Stathopolis video: 'Rothenberg mask'
8-31	Laryngeal systems Phonatory disorders that affect speech	4 (pg. 100-134)	Lofquist & Oshima video: 'Video Endoscopy' 'Build-your-own-larynx' kit
9-7	Quiz #1 (Respiration, phonation) Lecture: Upper Airway	5	Human skull
9-14	Upper airway - cont'd (return Quiz #1)	5	Human skull, Electro-larynx
9-21	Neural basis	7	Brain model; Human brain
9-28	Neural basis - cont'd	7	CT, MRI films Aphasia - video clips or Stroke PPT
10-5	MIDTERM (75 Qs, cumulative)	---	---
10-12	Speech kinematics	8, 11	EMA, EPG videos Lab visit
10-19	Speech acoustics: Basic acoustics, Vowel production	2, 9	In-class demos Wavesurfer software
10-26	Speech acoustics – Spectrography, consonant production, breakdowns in production of vowels and consonants	2, 9	VATA software Lab visit
11-2	Quiz #2 (kinematics, acoustics) Speech perception	10	In-class VOT experiment
11-9	Speech perception – cont'd (return Quiz #2)	10	McGurk effect – Pat Kuhl video
11-16	Review for final exam	study sheet	
* 11-23*	THANKSGIVING (no class)	--	--
11-30	Final exam (covers second half of class only)		

Note: Please visit the 'courses' section of my homepage (www.utdallas.edu/~wkatz). This will give you to access the PowerPoint slides used in the lectures, as well as other relevant materials. I will provide a password in class.

ASHA STANDARDS ADDRESSED IN THIS CLASS: How knowledge is conveyed and how knowledge and skill acquisition will be demonstrated

Standard III-B

The applicant must demonstrate knowledge of basic human communication and swallowing processes including their biological, neurological, acoustic, psychological, developmental, linguistic and cultural bases. Specific knowledge will be demonstrated in this class in the area of speech science.

Knowledge will be conveyed via class lectures and readings.

Acquisition will be demonstrated via class discussions and exams.

Standard III-C

The applicant must demonstrate knowledge of the nature of speech, language, hearing, and communication disorders and differences and swallowing disorders, including the etiologies, characteristic, anatomic/physiological, acoustic, psychological, developmental, and linguistic and cultural correlates. Specific knowledge will be demonstrated in this class in the area of speech science.

Knowledge will be conveyed via class lectures, readings, and required videotape viewing.

Acquisition will be demonstrated via class discussion and exams.

Standard III-E

The applicant must demonstrate knowledge of standards of ethical conduct.

Knowledge will be conveyed via class lectures. Acquisition will be demonstrated via class discussion.

Standard IV-G

The applicant for certification must complete a program of study that includes supervised clinical experiences sufficient in breadth and depth to achieve the following skills outcomes (in addition to clinical experiences, skills may be demonstrated through successful performance on academic coursework and examinations, independent projects or other appropriate alternative methods). Specific knowledge will be demonstrated in this class in the area of speech science.

Knowledge will be conveyed via lectures and readings. Acquisition will be demonstrated via class discussion and exams.

Students will demonstrate the following skills:

1. Describe the anatomy of the speech production mechanism. (III-B)

As measured by:

Successful completion of exams

Class discussion

2. Discuss and explain speech respiration, phonation, and resonance. (III-B)

As measured by:

Successful completion of exams

Class discussion

3. Demonstrate understanding of the neural basis of speech production and perception. (III-B)

As measured by:

Successful completion of exams

Class discussion

4. Be capable of conducting basic acoustic speech analysis, including speech digitizing, playback, and spectrographic analysis. (III-B, III-C, IV-B, IV-G).

As measured by:

Successful completion of exams
Homework assignments
Class discussion
Homework assignments

5. Analyze and classify spectrograms of American English, including key features of place, manner, and voicing. (III-B).

As measured by:
Successful completion of exams
Class discussion

6. Integrate knowledge concerning theories of speech perception into clinical practice (III-B, III-C).

As measured by:
Successful completion of exams
Class discussion

7. Identify and apply properties of speech science to speech pathology practice. (III-C, III-E, IV-B, IV-G).

As measured by:
Successful completion of exams
Class discussion

Field Trip Policies, Off-campus Instruction and Course Activities

Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at the website address http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm. Additional information is available from the office of the school dean. Below is a description of any travel and/or risk-related activity associated with this course.

Student Conduct & Discipline

The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD publication, *A to Z Guide*, which is provided to all registered students each academic year.

The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the *Rules and Regulations, Board of Regents, The University of Texas System, Part 1, Chapter VI, Section 3*, and in Title V, Rules on Student Services and Activities of the university's *Handbook of Operating Procedures*. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391).

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating

the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

Academic Integrity

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment or the award of a degree, and/or the submission as one's own work or material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.

Email Use

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.

Withdrawal from Class

The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.

Student Grievance Procedures

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's *Handbook of Operating Procedures*.

In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not

resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the dean will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.

Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.

Incomplete Grade Policy

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of **F**.

Disability Services

The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.

The contact information for the Office of Disability Services is:

The University of Texas at Dallas, SU 22

PO Box 830688

Richardson, Texas 75083-0688

(972) 883-2098 (voice or TTY)

Essentially, the law requires that colleges and universities make those reasonable adjustments necessary to eliminate discrimination on the basis of disability. For example, it may be necessary to remove classroom prohibitions against tape recorders or animals (in the case of dog guides) for students who are blind. Occasionally an assignment requirement may be substituted (for example, a research paper versus an oral presentation for a student who is hearing impaired). Classes enrolled students with mobility impairments may have to be rescheduled in accessible facilities. The college or university may need to provide special services such as registration, note-taking, or mobility assistance.

It is the student's responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.

Religious Holy Days

The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the

absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.

If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

These descriptions and timelines are subject to change at the discretion of the Professor.