

CMSD 3110

FUNDAMENTALS OF SPEECH AND VOICE SCIENCE - II

SPRING 2006 11:15-12:05 MWF ADERHOLD G-5 (3 HRS)

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The course syllabus is a general plan for the course; deviations, if necessary, will be announced to the class by the instructor.

⇒COURSE OVERVIEW

Fundamentals of Speech and Voice Science - II is a lecture-style course designed to provide the student with a fundamental, integrative and thorough understanding of the basic scientific principles and related anatomical structures associated with speech and vocalization. Specific topics covered during this course include the structural organization (anatomy), function (physiology), biomechanical, acoustical, and mathematical properties of vocal tract systems, up through and including the laryngeal system. The pre-requisite for this course is CMSD 3010, and a working knowledge of human biology, physics, and mathematics is always useful.

⇒COURSE OBJECTIVES (ASHA Standard met in parentheses)

- Demonstrate the ability to comprehend, conceptualize, and integrate the basic underlying principles of anatomy and physiology. (III-A)
- Demonstrate comprehension and correct use of standard anatomical terminology. (III-A)
- Understand and use the scientific method to analyze, synthesize and evaluate the operation of the human vocal tract and appreciate the relevance of these scientific principles to functional vocalization and speech in clinical practice. (III-B; III-D)
- Demonstrate the ability to memorize, visually identify, and verbally describe the location and function of all anatomical structures and systems, along with their substructures, deemed important for speech and vocalization. (III-B)
- Appreciate the 3-D structure of the human vocal tract and how different areas of the system are related to one another during normal speech and vocalization. (III-B)
- Be able to analyze and describe the selection, sequencing, and timing of articulatory systems to produce intelligible speech. (III-C)
- Be able to describe the selection and sequencing of systems involved in non-speech behaviors such as chewing and facial gestures. (III-C)
- Intuitively understand & synthesize together the mathematical & physical principles of vocalization with knowledge of the structural components of the human vocal tract. (III-B)
- Appreciate the comparative diversity of human vocal tract physiology as it pertains to vocalization in different age group populations, across gender, and within select disordered subject groups. (III-D)

- Understand and demonstrate the ability to analyze, synthesize, and evaluate the importance of relations that exist between vocal tract muscular systems, and vocal tract structural tissues (cartilage, bone, connective). (III-B; III-C)
- Be able to analyze and evaluate the importance and relation between muscular subsystems of the human vocal tract that work to produce changes in vocal tract shape, sound pressure, and airflow during speech. (III-B; III-C)
- Be able to describe and evaluate a constellation of tools and techniques that are used today to investigate normal and disordered speech. (III-F)
- Be able to synthesize your knowledge of (1) normal anatomy and physiology of the human vocal tract and (2) your understanding of quantitative analyses methods to appreciate more fully the pathophysiology of speech and non-speech disorders. (III-D)

⇒ WebCT

- Open your preferred web browser and go to the following URL: <https://webct.uga.edu/> . You must have the “**UGA MyID**” to access WebCT. For those students who do not have a “UGA MyID” yet, you can quickly create one at <http://www.uga.edu/myid> . Check your WebCT e-mail frequently for class announcements.

⇒ REQUIRED TEXTBOOKS & READINGS

1. Ferrand (2007). **Speech Science: An Integrated Approach to Theory & Clinical Practice (2nd ed.)**, Allyn & Bacon Publishing.
2. Zemlin, W.R. (1998). **Speech and Hearing Science: Anatomy and Physiology, (4th edition)**. Allyn & Bacon Publishing.
3. Selected readings and graphics will be on reserve in the Office of Instructional Technology [OIT] (2nd Floor Aderhold) for you to copy. You are to find the assigned reading, copy it with your own resources (e.g. bulldog bucks, check), and return the reading immediately. You are **NOT** to take the readings home – this will prohibit your classmates from reading and completing assignments. Items that have been removed will not be replaced.
4. Internet connectivity and e-mail access.
5. Lecture outlines will be available for you to download from our course website on WebCT.
 - Outlines will generally be available the evening before a scheduled lecture or lecture series. Lecture outlines are to complement and enhance your classroom experience, not to substitute for class attendance.
 - No guarantee is made that lecture notes will be available before class.

⇒ GRADING & ASSESSMENT PROCEDURES

Grading:

Quizzes	30 points
Exams	295 points
Homework	45 points
Final Research Paper	20 points
Participation	10 points

The course is graded on a linear whole-number point scale rather than on percentages. Please do not translate your point score into a percentage – this will only lead to confusion. There are **400** possible points to be accumulated in this class. Point totals will be translated into letter grades as follows:

A =	368 POINTS AND ABOVE
A- =	360-367
B+ =	352-359
B =	328-351
B- =	320-327
C+ =	312-319
C =	288-311
C- =	280-287
D =	240-279
F =	230 POINTS AND BELOW

- **Quizzes** will be given during the first 10-15 minutes of class – if you are late, you have missed your only opportunity to take the quiz**. There will be 6 quizzes administered throughout the semester. The lowest quiz grade will be dropped when calculating the final grade.
- There will be 4 **exams** this semester. The first three exams are each worth 70 points, while the final exam is worth 85 points. As for your final exam, it will be exactly like the previous 3, except for a 15 point essay section that will ask you to write upon a series of integrative questions that span the course of the semester.
 - All exams will typically include the following types of questions; *multiple choice, fill-ins, matching, brief essays, true-false, labeling figures, some simple figure or flowchart drawing, etc.* Exam questions will be derived from my lectures, outlines, textbook readings, and any outside readings that are assigned. You will have the full class period to complete an exam.
 - Exam dates are as follows: Jan. 31, Feb. 26, and Mar. 30. The final exam is scheduled for May 7 from 12-3pm.

Exam dates are subject to change at the discretion of the instructor.
- Four 15 point **homework** assignments will be given periodically throughout the semester, and must be turned in at the **BEGINNING** of class on the designated due date to receive full credit.
 - You will be allowed to drop your lowest HW assignment grade.
 - HW assignments will consist of computational problem sets, written responses to questions, applied experiments and various other assignments that fit with the topic currently under discussion.
 - Homework assignments are to be completed individually and only using your lecture notes, WebCT outlines, and assigned readings.

⇒ COURSE POLICIES SPECIFIC TO THIS CLASS

- Those students with documented special needs need to see me during the first week of class so that we may discuss your needs and plan any modifications to the course that may be necessary.
- A grade of C or better is required in order for this course to count toward your completion of a degree in Communication Sciences and Disorders.
- Midpoint withdrawal deadline is Thursday, March 1st.
- There are no extra-credit assignments provided, even if your final course score is 1 point away from a breakpoint on the grading scale.
- Attendance at all lectures is expected from everyone.
- You are responsible for obtaining copies of any class notes or handouts that were presented and distributed on a day you were absent.
- Turn off the ringers on your cell phones before class. If you know you may need to be reached in an emergency, please keep your cell phone/pager on vibrate mode and leave the classroom to answer the call.

⇒ ILLNESS AND ABSENCE POLICY FOR EXAMS**

- At the discretion of the instructor, make up exams will be given in cases of documented illnesses and/or emergencies. Documentation must be in the form of an excuse slip or written note from the Health Center or your personal physician, respectively.
- In case you are ill or have an emergency, please let me know your status *within 48 hours after* the missed exam date by e-mail or in person.
 - Any notification after the 48 hour period will not be accepted and you will not be able to make up the missed exam. Please don't let this happen.
- Make up exams and quizzes will also be provided for students who observe religious holidays.
 - To make up an exam or quiz, you must inform me of your absence *48 hours prior* to the exam date. We can arrange a mutually agreeable time for your make up.
 - If you inform me of your religious observance AFTER the exam, you will not be allowed to make up the exam unless you have a tremendously good excuse.
 - Forgetting your religion and/or converting within the 48 hour period will not count as a tremendously good excuse ☺.
- Make-up tests and quizzes will be of a different format and will be granted only at the instructor's discretion.

⇒ ACADEMIC HONESTY & INFORMATION

- As a member of this class and a student at UGA, you are honor bound to observe and demand academic honesty and integrity from yourself and those around you.
- The University of Georgia's Policy on Academic Honesty will be STRICTLY followed for this course. In summary, all students are responsible for maintaining the highest standards of honesty and integrity in every phase of their academics. The penalties for academic dishonesty are severe and *ignorance is not an acceptable defense*. All students are responsible for informing themselves about UGA's academic honesty standards before

performing any academic work. You can familiarize yourself with the UGA Academic Honesty Policy by referring to the following web page for details:

http://www.uga.edu/ovpi/academic_honesty/academic_honesty.htm

- As recommended by UGA's Office of Vice President for Instruction, a few examples of academic dishonesty specific to this course are offered:
 - Using references or detailed information from the internet without properly crediting or citing original authorship, or passing information off as your own original work.
 - Working collaboratively with other students to develop and complete homework. In other words, two or more students working together to come up with a single argument that each person then uses for their own assignment.
 - Knowingly ignoring someone else's dishonesty by not reporting the transgression.
- Please refer to your current student bulletin and the Spring 2007 Schedule of Classes for details about drop/add, course withdrawal policies and procedures, and any other general UGA academic policies.

⇒EXPECTATIONS

- Don't study harder, ... *Study smarter!*
- Take responsibility for your own learning.
- I will be expecting you to:
 - Think about and integrate the information we are working on, not simply memorize it.
 - Evaluate the context in which that information was presented to you,
 - Be able to explain clearly how information fits together with other things we are learning.
- ASK QUESTIONS IN CLASS.
- You will be expected to have mastery of anatomical sites, labels, terminology, and basic principles of those topics we have previously covered.
- College level organization, grammar, punctuation, syntax, etc. are expected from all students on any form of writing assignment. For written assignments and projects, refer to the Publication Manual of the American Psychological Association, Fifth Edition, for specific guidelines on **referencing**.
- **If you are having trouble with the content, get help from me or one of your classmates ASAP! Please, don't wait! Be sure to visit my office hours if you are confused or need further explanations.**

⇒TOPIC SCHEDULE AND READINGS

- Topic coverage is flexible and strongly influenced by the pace of the class. Changes in the format and pace of the course during the semester are up to the discretion of the instructor.
- Consult the course website **frequently** for updates and/or announcements.
- Specific reading assignments will be posted on the course website *and/or* announced in class.
- Outside readings and graphics (if assigned) may be found on reserve in OIT (2nd Floor Aderhold).
- Spring semester topics will continue from the point that we left off at the end of the Fall semester and will include coverage of the remaining vocal tract systems of speech articulation and resonance.

<p>Spring Semester Topics</p>	<p><i>Write your reading assignments here.</i></p>
❖ Laryngeal Anatomy	
❖ Laryngeal and Vocal Fold Physiology	
❖ Speech Aerodynamics	
❖ Bones of the Skull	
❖ Muscles of the face, pharynx, and tongue	
❖ Review the basic physics of waves, acoustic signals, and resonance	
❖ Source-filter theory of vocalization	
❖ Formants: Vowel and consonant features	
❖ Issues in speech perception	
❖ Survey of speech physiological assessment methods and analysis	
❖ Other:	