CDS 314 • Fall 2016
(3.0 semester credit hours)
Anatomy and Physiology of the Speech and Hearing Mechanism

Communication Disorders and Sciences
Southern Illinois University Carbondale • Rehabilitation Institute

Course Instructor: Maria Claudia Franca, Ph.D., CCC-SLP
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Office Hours: Mondays and Wednesdays from 8:00-11:00 a.m.
Appointments are advised. Changes will be posted on office's door.
Class meeting days and times: Mondays and Wednesdays from 11:00 a.m.-12:15 p.m.
Communications Building Room 1007

Required Materials:

Seikel, J. A., King, D. W., & Drumright, D. G. (2015). *Anatomy and physiology for speech, language, and hearing* (5th ed.). Independence, KY: Cengage Learning. ISBN-13: 978-1285198248; ISBN-10: 1285198247

Supplemental Materials:

Agur, A. M., Dalley, A. F. (2012). *Grant's atlas of anatomy* (13th ed). Philadelphia, PA: Lippincott Williams and Wilkins.

Anatomical Chart (2014). *The world's best anatomical charts* (5th ed.). Skokie, IL: Anatomical Chart Co.

Kent, R. D. (1997). The speech sciences. San Diego, CA: Singular Publishing Group.

MacFarland, D. H. (2015). *Netter's atlas of anatomy for speech, swallowing, and hearing* (2nd ed). New York, NY: Mosby-Elsevier.

Perkins, W.H., & Kent, R. D. (1991). *Functional anatomy of speech, language, and hearing*. Boston, MA: Ally and Bacon.

Zemlin, W. (1998). *Speech & hearing science: Anatomy & physiology* (4th ed.) Boston, MA: Allyn and Bacon.

Websites:

3D Images of Speech Structures. University of Illinois.
http://www.shs.uiuc.edu/shs300/default.htm

Human Anatomy Course-Pharynx and Larynx
Information with line drawings of the structures of the throat. Emory University.
www.emory.edu/ANATOMY/AnatomyManual/pharynx.html

Neuroscience for Kids. University of Washington, Seattle.
http://faculty.washington.edu/chudler/neurok.html

Slides of anatomical specimens of the larynx, skull, nervous and respiratory systems. Developed by University of Illinois at Urbana-Champaign to preserve some of Willard Zemlin's contribution to the field of speech-language and hearing sciences.
http://zemlin.shs.uiuc.edu

Whole Brain Atlas from the Harvard Medical School.
www.med.harvard.edu/AANLIB/home.html

Vocal mechanism videos produced by videostroboscopy. National Center for Voice and Speech.
www.ncvs.org/ncvs/tutorials/youngexp/fantasticvoyage.html

Course Objectives: Course objectives fulfill the criteria for the following American Speech Language Hearing Association (ASHA) Standards: IV.A-H & V.A. Upon completion of this course, each student will be able to:

1. Identify anatomical structures of respiration, phonation, articulation, resonance, swallowing, hearing and the central nervous system.
2. Differentiate the physiological processes involved in respiration, phonation, articulation, resonance, swallowing, hearing, and the central nervous system. Physiological processes include both speech and non-speech related functions.
3. Recite anatomical and physiological information in both clinical and lay terms, through oral and written communication.
4. Identify anatomical anomalies and physiological dysfunctions related to some common communicative disorders of speech, language, swallowing, neurology, and hearing.
5. Demonstrate adequate oral and written communication skills.

Introduction: This course is required for fulfillment of the B.S. degree in Communication Disorders and Sciences. It is recommended that the course be taken in the first semester of the four-semester sequence of major courses. It is further recommended that this course be taken prior to, or concurrently with CDS 301 – Introduction to Speech & Hearing Science. The material covered in this course is necessary as a prerequisite to advanced courses in the study of speech-language pathology and audiology. Knowledge of the anatomical structures and physiological functions related to speech and hearing prepares the student for the study of the basic human processes involved in speech and voice production, language development, and audition.

Expectations:

Punctuality - Class begins promptly at 11:00 a.m., and ends promptly at 12:15 p.m. It is expected that each student will arrive on time and remain for the entire class period.

Class Attendance - Class attendance and meaningful participation in the class are essential, and an indication of professional character. Chronic lateness and unpreparedness is impolite as well as evidence of lack of readiness for professional practice. As per University policy, students who stop attending a class without officially dropping will be subject to being awarded a *WF* (e.g., grade granted to a student who did not officially withdraw from class, ceased attending and failed to complete requirements for the class). For more detailed information on this policy, please see the SIUC Undergraduate Catalog, and/or the instructor.

Teaching methods: This course is designed to provide basic knowledge of anatomy and physiology of the speech and hearing mechanisms. A major portion of the course will address identification and labeling of anatomical structures, using diagrams and models. Physiological functions will be presented in lectures and software self-tutorials.

Evaluation and Grading Procedures: Students taking this course for a letter grade must complete each assignment and examination as specified.

Activities:

1. **Study Questions:** Each chapter of the text concludes with study questions. Students are expected to answer the questions assigned, and report needs for clarification to the instructor.

2. **Terminology/Study Groups:** Students will define terminology, identify structures, and explain processes as indicated in the chapter reading. The instructor highly recommends that students form study groups to facilitate peer education. Exam questions will derive directly from topics indicated in the syllabus, from the sources available to the student. Students will complete chapter readings prior to the scheduled class to (1) prepare for the learning activity by having familiarity with terms that will be used in class, and (2) to prepare questions for peers and instructor.

3. **Exams:** Each student is required to take 5 exams (100 points each). Question topics will be derived from text readings, chapter summary questions, class discussion, software self-tutorials, and handouts. Each exam is worth 100 points. **Students may not take a test at any time other than at the announced time and date**. The final will be worth the same number of points as each of the other exams. Only students who have not completed the five regular examinations will be required to take the final examination.

4. **Assignments**: Students will receive 3 in-class or take-home assignments (10 points each) throughout the semester, as a support method to learn and retain critical anatomy landmarks and physiology concepts.

5. **Perfect attendance**: Students with no absences (excluded documented excused absences) will earn 20 points toward the final grade. The instructor will take attendance either using a sign in sheet or by calling each student's name <u>one or more times per day</u>, at random times.

Final Grade: Conversion to letter grade is calculated by points earned, divided by total possible points. Following is the point to letter grade equivalency:

90-100 %	(495-550) A
80-89 %	(440-494) B
70-79 %	(385-439) C
60-69 %	(330-384) D
59% or below	(329 or below) F

How to Use the Schedule of Topics: Each class date has corresponding information regarding the topic to be covered, and student work to be completed by that date. Reading assignments and study questions are to be completed in preparation for the class indicated. It is important that you read assigned work before coming to class.

CDS 314 Falll 2016 - Tentative Schedule

Date	Topic(s)
8/22 M	Introductions, Review of Syllabus, Overview of Course, Introduction to Text & Learning Materials. Please read Seikel, et.al., "*Preface to the Fifth Edition*," "*Introduction to the Leaner,* " and "*Using this* T*ext*," "*How to Use StudyWARE,"* and "*Overview of the Text*."
8/24 W	Basic Elements of Anatomy – Ch.1: Terminology of Anatomy
8/29 M	Ch.1: Organs, Tissues and Systems Ch.1 Study Questions. **Assignment#1**
8/31 W	***EXAM I (Ch. 1)***
9/5 M	**Labor Day Holiday - No Class**
9/7 W	Review Exam I Anatomy of Respiration – Ch.2: Pressure, Support Structure of Respiration (Bony Thorax, Vertebrae & Vertebral column)
9/12 M	Ch.2: Support Structure of Respiration (Pelvic & Pectoral Girdles, Ribs & Rib Cage)
9/14 W	**Ch.2: Visceral Thorax (Soft Tissue of the Thorax & Respiratory Passageway; Movement of Air Through the System)**
9/19 M	Ch. 2: Muscles of Respiration **Ch.3 Study Questions 1-7, 10, 11abc, 12-15** **Assignment#2**
9/21 W	Physiology of Respiration – Ch. 3 Ch. 3 Study Questions. Review Assignment#2
9/26 M	***EXAM II (Ch. 2&3)***
9/28 W	Review Exam II Anatomy of Phonation – Ch. 4: Framework of the Larynx.
10/3 M	Ch. 4: Structure of the Larynx.
10/5 W	Ch. 4: Laryngeal Musculature. Ch. 4 Study Questions.
10/10 M	**Fall Break - No Class**
10/12 W	Physiology of Phonation – Ch.5: Nonspeech Laryngeal Function & Laryngeal Function for Speech, Linguistic Aspects of Pitch & Intensity, Theories of Phonation. Ch. 5 Study Questions
10/17 M	***EXAM III (Ch. 4&5)***
10/19 W	Review Exam III Anatomy of Articulation & Resonance – Ch. 6:The Articulators, Bones of the Face & Cranial Skeleton
10/24 M	Ch. 6: Dentition, Cavities of the Vocal Tract
10/26 W	Ch. 6: Muscles of the Face & Mouth Ch. 6 Study Questions
10/31 M	Physiology of Articulation & Resonation – Ch. 7: Introduction & Speech Function
11/2 W	**Ch. 7 Study Questions** **Assignment#3** Physiology of Mastication & Deglutition – Ch. 8: Biological Function, Introduction to Mastication & Deglutition; Muscles of Mastication

11/7 M	Review Assignment#3 Physiology of Mastication & Deglutition – Ch. 8: Biological Function, Introduction to Mastication & Deglutition; Muscles of Mastication.
11/9 W	***EXAM IV (Ch. 6,7,8)***
11/14 M	Review Exam IV Anatomy of Hearing – Ch.9: The Structures of Hearing Ch. 9 & 10 Study Questions
11/16 W	**ASHA – No Class**
11/21 M	Auditory Physiology -- Ch. 10: Outer Ear, Middle Ear Function, Inner Ear Function
11/23 W	**Thanksgiving Vacation - No Class**
11/28 M	Neuroanatomy - Ch. 11: Divisions of the Nervous System, Anatomy of CNS & PNS
11/30 W	Ch. 11: Cranial Nerves Ch. 11 Study Questions
12/5 M	***EXAM V (Ch. 9, 10 & 11)***
12/7 W	Review Exam V
12/16	FINAL EXAM 10:15 a.m. – 12:15 p.m.

Notes:

1. The instructor expects students to comply with University policies. Policies pertaining to student conduct are printed in the SIUC Catalog. Students may wish to review specifically the information in the Catalog on human subjects and the Student Conduct Code (especially regarding Acts of Academic Dishonesty).
2. If you consider yourself to be a student with an impairment/disability that necessitates academic adjustments or services, please inform the professor or contact the Disability Support Service Office at Woody Hall B-150 (453-5738).
3. If you need assistance with writing skills you can contact the SIUC Writing Centers. Their email address is write@siu.edu, their website address is www.siu.edu/~write
4. Emergency Procedures. Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study ad work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on campus, available on the BERT's website at www.bert.siu.edu, Department of Public Safety's website www.dps.siu.edu)(disaster drop down) and in the Emergency Response Guidelines pamphlet. Know how to respond to each type of emergency.
   Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. **It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.** The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.

As members of our University community, we commit ourselves to the ideals of SIUC and express our commitment through the following creed:
As a Saluki, I pledge to advance learning. I will practice personal and academic integrity. I will fulfill my responsibility as a citizen-scholar by striving to make this campus and community a better place.
Students are encouraged to examine the SIUC Student Conduct Code thoroughly at the following website: http://policies.siu.edu/_common/documents/StudentConductCode.pdf