

SLHS 3116: Speech Science

University of Colorado - Boulder
Department of Speech, Language, and Hearing Sciences
Summer Term, 3 Credits

Course Mode: Online via Desire2Learn (D2L) (<https://learn.colorado.edu/>)
Instructor: Ryan Pollard, Ph.D. CCC-SLP
Phone: 303-492-9633 (office)
Office hours: By appointment, Zoom (<https://cuboulder.zoom.us/>) meetings available
Email: Ryan.Pollard@colorado.edu

Required Textbook: Seikel, King, Drumright (2009). Anatomy and Physiology for Speech, Language, and Hearing, 4th Edition, Cengage Delmar Learning. ISBN-10: 1428312234 , ISBN-13: 978-1428312234

Course Description:

SLHS 3116 is a course designed to provide students with an introductory understanding of the anatomy and physiology of the systems involved in speech production and swallowing.

Course Objectives:

At the completion of SLHS 3116, students should be able to:

- Identify the major anatomic structures involved in speech and swallowing in humans.
- Describe the physiology of the speech subsystems based on understanding of their anatomies.
- Explain, in broad terms, which neurological mechanisms underlie specific speech functions and how they operate.

Desire2Learn:

Material related to this class will be presented through Desire2Learn (<https://learn.colorado.edu/>). Once you are there, sign in using your login name and password and click on SLHS 3116. You can then click on the links available, including syllabus, mail, handouts, and lectures. Required course material, including supplemental pictures, diagrams, videos, audio files, etc. (outside of the textbook readings) will be made available on Desire2Learn. The course website will be updated throughout the course session. Text reading assignments and homework assignments will be posted to Desire2Learn.

Desire2Learn will also be used for email communications that I sent to the entire class. Be sure to check your Desire2Learn email regularly. Missing course-related messages and announcements and schedule changes by not checking your Desire2Learn email and the Desire2Learn course website is NOT an acceptable excuse for missing deadlines/assignments related to the class.

Evaluation:

You are expected to work **individually** on all homework assignments, and exams. Only turn in your own work. Allowing others to copy your work will also be considered a form of cheating. The instructor reserves the right to fail you on an assignment that evidences cheating in any form. Please do not copy information directly from any source (internet, textbook, journal articles etc.) and present it as your own – this is considered plagiarism. You must give proper acknowledgement to the authors, including using quotation marks and proper APA citation (author, year, page number) for their ideas, even if you slightly reword their thoughts.

You will be evaluated based on your completion of five exams and four homework assignments. Each is described below.

1. Exams

Five examinations will be given in this class. Exams will be available on Desire2Learn for a 2-day period, beginning on a Friday morning (7:00 AM MT) and ending on the following Saturday at 9:00 PM Mountain Time. Just like taking an exam in person in a traditional class, you will have a time window of 50 minutes to complete each exam, and once you begin

the exam, you must finish within that time window. The final exam will be comprehensive (and therefore, based on material covered during the course of the entire semester). The time window for the final exam will be 75 minutes. All exams will contain one or more of the following types of questions: fill-in/labeling, multiple choice, true/false, matching, short-answer. I will provide more detailed information about each examination closer to the date of the exam. Exams will be open-book, however no unauthorized resource is allowed.

2. Homework Assignments – 25 points each

There will be 4 homework assignments, one for each section of the course (please note that the first homework will cover the first and second sections). Homework assignments will follow and support lecture material. The homework assignments will be available on Desire2Learn on the Sunday that corresponds to the start of a new section, and due the following exam weekend (by the end of the day), based on the course schedule. See below for the course policy on late work.

Total Possible Points:

There will be a total of 375 points available in this course.

Assignment	Possible Points
Exam 1 – Anatomy Basics, Basic Acoustics & Nervous System	50
Exam 2 – Respiratory System	50
Exam 3 – Phonatory System	50
Exam 4 – Articulatory System I	50
Final Exam – Articulatory System II & Comprehensive	75
Homework (4@25 points each)	100
Total Points:	375

Final Grades will be assigned based on the percentage of the 375 total points that you earn and will be calculated using the following scale:

93.0-100%	A	87.0-9.9%	B+	80.0-82.9%	B-	73.0-76.9%	C	67.0-69.9%	D+	60.0-62.9%	D-
90.0-92.9%	A-	83.0-86.9%	B	77.0-79.9%	C+	70.0-72.9%	C-	63.0-66.9%	D	<60%	F

Note that I will NOT be “rounding up” grades. Your final grade will be based your total point percentage using the above table.

Class Schedule:

	Topic	Readings	Homework
Section 1 5/31-6/10	Introduction to Anatomy and Physiology <ul style="list-style-type: none"> Anatomical Terms and Planes Tissue Types, Muscles & Joints, Biomechanics 	Ch. 1	
	Basic Acoustic Principles		
	<u>Neuroanatomy Overview</u> <ul style="list-style-type: none"> CNS PNS 	Ch. 11	
6/10-6/11	EXAM 1 AVAILABLE		
Section 2 6/12-6/24	<u>Respiratory System Anatomy</u> <ul style="list-style-type: none"> Overview of Respiration Anatomical Basis of Breathing <ul style="list-style-type: none"> Lungs, Muscles, Skeletal Structure, Joints Neural Substrate 	Ch. 2	<i>Homework 1 Available</i>
	<u>Respiratory System Physiology</u> <ul style="list-style-type: none"> Active and Passive Forces Forces & Movements of Breathing 	Ch. 3	

	<ul style="list-style-type: none"> • Speech vs. Life Breathing 		
	<u>Respiratory System</u> Measurement of Respiratory Behavior		
6/24-6/25	EXAM 2 AVAILABLE		Homework 1 Due
Section 3 6/26-7/08	<u>Laryngeal System Anatomy</u> <ul style="list-style-type: none"> • Overview of Phonation • Anatomical Basis of Phonation <ul style="list-style-type: none"> ○ Mucous membranes, intrinsic & extrinsic musculature, supporting structure. ○ Neural Substrate 	Ch. 4	Homework 2 Available
	<u>Laryngeal System Physiology</u> <ul style="list-style-type: none"> • Myoelastic-Aerodynamic Theory of Phonation • Adjustment of Forces of the Laryngeal Apparatus 	Ch. 5	
	<u>Laryngeal System</u> <ul style="list-style-type: none"> • Measurement of Laryngeal Function <ul style="list-style-type: none"> ○ Acoustic, Aerodynamic, Visualization, Physiologic 		
7/08-7/09	EXAM 3 AVAILABLE		Homework 2 Due
Section 4 7/10-7/22	<u>Articulatory System: Oral System</u> <ul style="list-style-type: none"> • Overview • Skeletal Anatomy of the Face & Skull • Muscles of the Face & Tongue 	Ch. 6 & 7	Homework 3 Available
	<u>Articulatory System: Pharyngeal – Oral System</u> <ul style="list-style-type: none"> • Neural Substrate of Facial & Tongue Muscles • Measurement of Facial & Tongue function 	Ch. 6 & 7	
7/22-7/23	EXAM 4 AVAILABLE		Homework 3 Due
Section 5 7/24-8/4	<u>Articulatory System: Mandible</u> <ul style="list-style-type: none"> • Skeletal & Muscular Anatomy of the Mandible 	Ch. 6 & 7	Homework 4 Available
	<u>Articulatory System: Pharyngeal & Velopharyngeal System</u> <ul style="list-style-type: none"> • Muscles of Pharynx & Velopharynx • Function of Pharynx & Velopharynx • Neural Substrates 		
	<u>Articulatory System: Pharyngeal & Velopharyngeal System</u> <ul style="list-style-type: none"> • Function for Swallowing <ul style="list-style-type: none"> ○ Stages of Swallowing ○ Neural Control of Swallowing 	Ch. 8	
8/5	FINAL EXAM AVAILABLE		Homework 4 Due

Course Policies:

Communication:

Please contact me via email (Ryan.Pollard@colorado.edu) or by phone if absolutely necessary (303-492-9633). I prefer to be contacted via my Ryan.Pollard@colorado.edu email account, and not via Desire2Learn email. I will endeavor to respond to your contact (email or by phone) within one business day. If I don't respond, please re-send your message. You are expected to check your email and the course website (for announcements) daily. Missing a due date or change in the course schedule due to not reading the course website or your email is not an acceptable excuse for missing or late work.

I will be using the "Discussions" section of the course to host a forum on course issues. Please feel free to post questions or comments about course content to the Discussion forum. I will check the forum regularly (as I hope you will), and I will attempt to address issues that arise in a timely fashion. However, I hope that you will not rely solely on me to respond to forum postings – you are a valuable resource to your fellow students and they to

you. I will also be scheduling real-time (live) whiteboard/chat sessions throughout the semester. The live chat sessions will be scheduled after the class starts and the schedule and a link to the chat website will be posted in an announcement. Please feel free to join in!

Late Work

Assignments are due on the date posted on the course website. Late work will be reduced by 25% of the total possible points per day late (i.e., on the 4th day late, the homework assignment is worth 0 points). I will not accept the 4th homework assignment if late. There will be no exceptions to the above policy. I have ensured that you have adequate time to complete each assignment, therefore lateness is unacceptable.

Disabilities:

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs will be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322, and <http://www.Colorado.EDU/disabilityservices>
If you have a temporary medical condition or injury, see guidelines at <http://www.colorado.edu/disabilityservices/go.cgi?select=temporary.htm>

Religious Observances:

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. Please let me know as soon as possible about any conflicts. Exams will be available over a 2-day period in order to try to reduce this possibility. See full details at http://www.colorado.edu/policies/fac_relig.html

Learning Environment

Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See policies at <http://www.colorado.edu/policies/classbehavior.html> and at <http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#studentcode>

Discrimination & Harassment

The University of Colorado at Boulder policy on Discrimination and Harassment, the University of Colorado policy on Sexual Harassment and the University of Colorado policy on Amorous Relationships apply to all students, staff and faculty. Any student, staff or faculty member who believes s/he has been the subject of sexual harassment or discrimination or harassment based upon race, color, national origin, sex, age, disability, creed, religion, sexual orientation, or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information about the ODH, the above referenced policies and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at <http://www.colorado.edu/odh>

Academic Honesty

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-735-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at <http://www.colorado.edu/policies/honor.html> and at <http://www.colorado.edu/academics/honorcode/>