

SPLH 662 Speech Science: Anatomy & Physiology (3 credits—line #33453)

FALL 2009 8:00–8:50 a.m. MWF, DOLE 2092

1. OFFICE HOURS

Steven M. Barlow, Ph.D., Professor

SPLH, Neuroscience, Human Biology, and Bioengineering
3045 Dole Human Development Center or
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785-864-4447 or 785-312-5344 sambarlow@ku.edu

Graduate Teaching Assistant

Emily Zimmerman, M.A. CCC-SLP

Doctoral Candidate in Developmental Speech Physiology
Office Hours in Haworth 4106: 9:00–10:00 AM Monday or by appointment
785-864-1196 emzim@ku.edu

2. REQUIRED TEXT

Hixon, TJ, Weismer, G, Hoit, JD. (2008). *Preclinical Speech Science*. Plural Publishing Inc., San Diego, CA.

3. RECOMMENDED TEXT

Barlow, SM. (1999). *Handbook of Clinical Speech Physiology*. San Diego: Singular Publishing Group, Inc.

4. COURSE OBJECTIVES

To gain a basic understanding of voice and speech production, structural organization (anatomy), function (physiology), and neural control of the human vocal tract during speech production (speech motor control) in health and disease. The human vocal tract is composed of articulatory subsystems which produce forces, movements, sound pressure, air flows and air pressure during speech. These subsystems include the chest wall, larynx, velopharynx, and orofacial [lip, tongue, and jaw]. The selection, sequencing and timing of these articulatory subsystems to produce intelligible speech is orchestrated by a phylogenetically elaborated nervous system. Pathophysiology of vocal tract subsystems due to musculoskeletal abnormalities, brain injury, and progressive neuromotor disease will be presented during the course of the semester.

5. GRADING

Your grade in this course will be based on 6 quizzes, 2 midterm exams, and a **cumulative** final exam. All assessments are objective in format.

Quizzes = 10 points each × 6 = 60 points (Bb format, 30 minutes max. time)

Midterm #1 = 100 points

Midterm #2 = 100 points

Final Exam = 100 points

Course Grade based on 360 points

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6. STUDENTS WITH DISABILITIES

"The staff of Services for Students with Disabilities (SSD), 135 Strong, 785-864-2620 (v/tty), coordinates accommodations and services for KU courses. If you have a disability for which you may request accommodation in KU classes and have not contacted them, please do as soon as possible. Please also see me privately in regard to this course."

7. Health: KU Pandemic Response Plan (<http://www.pandemic.ku.edu/>) and the "Personal Guide to Protect Against Flu" (<http://www.pandemic.ku.edu/pdf/tipSheet.pdf>)

Day	Date	Reading	Topic	Lecturer	Quiz
Fri	21-Aug		Introduction to Course, BB	All	
Mon	24-Aug	1	Introduction	Barlow	
Wed	26-Aug	2: 7–27	Breathing: Anat & Physiol	Barlow	
Fri	28-Aug	2: 7–27	Breathing: Anat & Physiol	Barlow	
Mon	31-Aug	2: 28–34	Breathing: Output Variables	Barlow	
Wed	2-Sep	2: 35–42	Breathing: Neural Control	Barlow	Quiz
Fri	4-Sep	2: 43–68	Breathing: Speech Production	Barlow	
Mon	7-Sep		Labor Day		
Wed	9-Sep	2: 69–71	Breathing: Pathophysiology	Barlow	
Fri	11-Sep	3	Laryngeal A&P	Barlow	
Mon	14-Sep	3	Laryngeal A&P	Barlow	
Wed	16-Sep	3	Laryngeal A&P	Barlow	Quiz
Fri	18-Sep	3	Laryngeal A&P	Barlow	
Mon	21-Sep	3	Laryngeal A&P	Barlow	
Wed	23-Sep	3	Review	Barlow	
Fri	25-Sep		Midterm #1	Barlow	
Mon	28-Sep	3	Laryngeal Function	Barlow	
Wed	30-Sep	3	Laryngeal Function	Barlow	
Fri	2-Oct	3	Laryngeal Function	Barlow	
Mon	5-Oct	3	Laryngeal Function	Barlow	
Wed	7-Oct	3	Laryngeal Function	Barlow	Quiz
Fri	9-Oct	3	Laryngeal Function	Barlow	
Mon	12-Oct	3	Laryngeal Function	Barlow	
Wed	14-Oct	3	Laryngeal Function	Barlow	
Fri	16-Oct		Fall Break		
Mon	19-Oct	4: 171-194	VP: Anat & Physiol	Zimmerman	
Wed	21-Oct	4:195-203	VP: Neural Control	Zimmerman	Quiz
Fri	23-Oct	4: 204-217	VP: Speech	Zimmerman	
Mon	26-Oct	4: 218-224	VP: Disorders	Zimmerman	
Wed	28-Oct	4: 218-224	VP: Measurement	Zimmerman	
Fri	30-Oct	3, 4	Review	Zimmerman	
Mon	2-Nov		Midterm #2	Zimmerman	
Wed	4-Nov	5: 238–265	Pharyngeal-Oral Function: Anatomy	Zimmerman	
Fri	6-Nov	5: 238–265	Pharyngeal-Oral Function: Anatomy	Zimmerman	
Mon	9-Nov	5: 238–265	Pharyngeal-Oral Function: Muscles	Zimmerman	
Wed	11-Nov	5: 238–265	Pharyngeal-Oral Function: Muscles	Zimmerman	Quiz

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Fri	13-Nov	5: 265-272	Pharyngeal-Oral Function: Control, Neural, Function	Zimmerman
Mon	16-Nov	5: 292–301	Pharyngeal-Oral Function: Speech	Zimmerman
Wed	18-Nov	5: 301–305	Pharyngeal-Oral Function and Disorders: Measurement	Zimmerman
Fri	20-Nov	ASHA Conference		
Mon	23-Nov		AEROWIN RT v1.4	Zimmerman
Wed	25-Nov	Thanksgiving Break		
Fri	27-Nov	Thanksgiving Break		
Mon	30-Nov	12: 580–591	Swallowing: Anatomy and Forces	Zimmerman
Wed	2-Dec	12: 591–600	Swallowing: Measurement	Zimmerman Quiz
Fri	4-Dec	12: 600–605	Swallowing: Disorders and videos	Zimmerman
Mon	7-Dec		Swallowing: video	Zimmerman
Wed	9-Dec	All	Review Day	Zimmerman
Fri	11-Dec	Stop Day		
Thurs	17-Dec	7:30-10:00 AM	Final Exam - cumulative	Zimmerman