CSAD 111 Anatomy & Physiology of the Speech Mechanism
Syllabus, Fall Semester 2018
Folsom 1063  T/TH 4-5:15

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CSAD 111. Anatomy and Physiology of the Speech Mechanism. 3 Units

Prerequisite(s): CHDV 30, DEAF 51, PSYC 2, and STAT 1

Corequisite(s): CSAD 110

Term Typically Offered: Fall only

Anatomical, physiological and neurological bases of speech. Covers development, normal structure and function. A general course in human anatomy is recommended as background.

Description and Purpose
This course is designed to facilitate your learning the anatomy and physiology of speech. Much of what we'll cover is easier to understand if you are able to visualize the structures. The text book and PowerPoint lectures and recommended websites contain images, models and videos to aid in this process. Please note that class lectures will include more information than that contained on the PowerPoint slides. It is strongly advised that you not only attend class, but review the PowerPoint slides and read assigned book chapters prior to class.

Required Texts
Anatomy & Phys for Speech etc (TEXT ONLY), Author: Seikel, Publisher: Cengage Learning, Edition: 5th, Year Published: 2015,

Free Apps
3D Brain
Essential Skeleton 4
Living Lung

Learning Outcomes Competencies: (CSAD 111):

Mastery of each student learning outcome listed below is indicated by a grade of C or better on each component of the corresponding measures listed in the table. Students are required to track their progress towards meeting each learning outcome and must make an appointment with the instructor for any grade equal to or less than a C. The instructor will suggest strategies to help you establish competence and knowledge in these areas.

Students should track their progress towards meeting each learning outcome by listing their grades on the table below over the course of the semester.
CSAD 111 SPECIFIC STUDENT LEARNING OUTCOMES:

1. The student will identify those anatomic structures involved in the processes of speech.
2. The student will describe the physiological processes and underlying neurological processes involved in respiration.
3. The student will describe the physiological processes and underlying neurological processes involved in phonation.
4. The student will describe the physiological processes and underlying neurological processes involved in articulation.
5. The student will describe the physiological processes and underlying neurological processes involved in resonance of speech.
6. The student will describe what happens when disease or disorders interfere with these processes.

<table>
<thead>
<tr>
<th>Course Learning Outcome</th>
<th>Components Indicating Competence</th>
<th>Grades Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Identifying anatomical structures</td>
<td>Exams 1-4; Quiz, class participation</td>
<td></td>
</tr>
<tr>
<td>2 Physiology of respiration</td>
<td>Exam 2, class participation</td>
<td></td>
</tr>
<tr>
<td>3 Physiology of phonation</td>
<td>Exam 3, class participation</td>
<td></td>
</tr>
<tr>
<td>4 Physiology or articulation</td>
<td>Exam 4, class participation</td>
<td></td>
</tr>
<tr>
<td>5 Physiology of resonance of speech</td>
<td>Exam 4, class participation</td>
<td></td>
</tr>
<tr>
<td>6 Identifying effects of disease or disorders</td>
<td>Exams 1-4, Quiz, class participation</td>
<td></td>
</tr>
</tbody>
</table>

CSAD 111 Anatomy and Physiology of the Speech Mechanism.

Standard IV-A
- The student will demonstrate prerequisite knowledge of the biological sciences.

Standard IV-B: Basic Human Communication Processes
- The student will demonstrate the ability to analyze, synthesize and evaluate knowledge re: biological bases of human communication.
- The student will demonstrate the ability to analyze, synthesize and evaluate knowledge re: neurological bases of human communication.

Standard IV-B: Swallowing Processes
- The student will demonstrate the ability to analyze, synthesize and evaluate knowledge re: biological bases of human communication.
- The student will demonstrate the ability to analyze, synthesize and evaluate knowledge re: neurological bases of human communication.

Examinations and Grading
1. Four exams will be given, in addition to a comprehensive exam (please bring scantron forms).
2. Each exam (including the final) is worth 100 points.
3. Quiz is worth 10 points. Class participation is worth 10 points.
4. Total points possible—520
5. Missed exams require a medical excuse. You must notify me prior to the test if you cannot be there.
6. Exams must be made up within one week.
7. Penalty for missed exams is the value of that exam (i.e., 100).
8. Grades will be assigned as follows (the percentage of 520 possible points):
   - 94.5-100 A
   - 89.5-94.4 A-
   - 86.5-89.4 B+
   - 83.5-86.4 B
   - 79.5-83.4 B-
   - 76.5-79.4 C+
   - 73.5-76.4 C
   - 69.5-73.4 C-
   - 66.5-69.4 D+
   - 63.5-66.4 D
   - 59.5-63.4 D-
   - Below 59.5 F

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**Neuroanatomy & Neurophysiology**

**Week 1, August 28th, August 30th**
Topics: Introduction to Course, Anatomic Orientation, Introduction to Neuroanatomy
Reading: Chapter 1 (readings should always be completed before that class meeting)

**Week 2, September 4th, 6th**
Topic: Neuroanatomy
Reading: Chapter 11
Supplemental: [http://www.bartleby.com/107/183.html](http://www.bartleby.com/107/183.html) (microscopic images of neurons);
[http://www-medlib.med.utah.edu/WebPath/HISTHTML/NEURANAT/CNS017A.html](http://www-medlib.med.utah.edu/WebPath/HISTHTML/NEURANAT/CNS017A.html) (photo of brain and spinal cord);
[http://www-medlib.med.utah.edu/WebPath/HISTHTML/NEURANAT/NEURANCA.html](http://www-medlib.med.utah.edu/WebPath/HISTHTML/NEURANAT/NEURANCA.html) (self-guided neuroanatomy tutorial, with photos of dissected structures);
[http://www.youtube.com/watch?v=mtdBGOvj-Ne](http://www.youtube.com/watch?v=mtdBGOvj-Ne) (Neuro Exam);
[http://www.neuroexam.com/](http://www.neuroexam.com/) (Neuro exam and study material);
[http://www.youtube.com/watch?v=9hhfM7rQHiM](http://www.youtube.com/watch?v=9hhfM7rQHiM) (circle of willis);

**Week 3, September 11th, 13th**
Topic: Neuroanatomy & Neurophysiology
Reading: Chapter 11 & Chapter 12

**Week 4, September 18th, 20th**
Topic: Neurophysiology
Reading: Chapter 12 (also portions of Chap 9 &10 on hearing)

**Week 5, September 25th**

Exam

**Exam, September 25th: Basic Concepts, Neuroanatomy, Neurophysiology**
# Respiratory Anatomy and Physiology

## Week 5, September 27th

**Topic:** Anatomy of Respiration  
**Reading:** Chapter 2  
**Supplemental:**  
- [http://www.innerbody.com/htm/body.html](http://www.innerbody.com/htm/body.html) (skeletal system)  
- [http://www.innerbody.com/htm/body.html](http://www.innerbody.com/htm/body.html) (more general of thorax)  
- [http://www.youtube.com/watch?v=DoSTehS7iq8](http://www.youtube.com/watch?v=DoSTehS7iq8) (respiration-gas exchange)  
- [http://www.youtube.com/watch?v=gYSIWceGMxY&feature=related](http://www.youtube.com/watch?v=gYSIWceGMxY&feature=related) (how we breathe)

## Week 6, October 2th, 4th

**Topic:** Anatomy & Physiology of Respiration  
**Reading:** Chapter 2 & Chapter 3

## Week 7, October 9th 11th (exam review/guest lecture)

**Topics:** Anatomy & Physiology of Respiration  
**Reading:** Chapter 2 & Chapter 3  
**Supplemental:** [http://www.med.umich.edu/lrc/coursepages/M1/anatomy/abdo_wall.html](http://www.med.umich.edu/lrc/coursepages/M1/anatomy/abdo_wall.html) (abdominal muscles)

## Week 8, October 16th (**exam**)

**Exam October 16th:** Anatomy and Physiology of Respiration

## Phonatory Anatomy & Physiology

## Week 8, October 18th

**Topics:** Anatomy of Phonation  
**Reading:** Chapter 4

## Week 9, October 23rd, 25th

**Topic:** Anatomy and Physiology of Phonation  
**Reading:** Chapter 4 & Chapter 5  
**Supplemental:**  
- [http://anatomy.uams.edu/HTMLpages/anatomyhtml/gross_atlas.html](http://anatomy.uams.edu/HTMLpages/anatomyhtml/gross_atlas.html) (cartilages)  
- [http://www.bartleby.com/107/236.html](http://www.bartleby.com/107/236.html) (cartilages, intrinsic muscles—keep scrolling, it's there)  
- [http://www.youtube.com/watch?v=Z_ZGqntZn8](http://www.youtube.com/watch?v=Z_ZGqntZn8) (the talking larynx)  
- [http://www.youtube.com/watch?v=qeDLsP1YSE](http://www.youtube.com/watch?v=qeDLsP1YSE) (muscles of larynx)  
- [http://www.youtube.com/watch?v=wLRs77u6OU](http://www.youtube.com/watch?v=wLRs77u6OU) (endoscopy)

## Week 10 October 30th, November 1st

**Topic:** Physiology of Phonation  
**Reading:** Chapter 5
Week 11, November 6th

Exam November 6th: Phonation

Articulation and Resonation Anatomy & Physiology

Week 11, November 8th
Topic: Anatomy of Articulation and Resonation
Reading: Chapter 6
http://www.bartleby.com/107/242.html (bones and muscles of articulation)

Week 12, November 13th, 15th
Topic: Anatomy of Articulation and Resonation
Reading: Chapter 6 & Chapter 7

Week 13, November 20th, November 22nd (no class Thanksgiving)
Topic: Physiology of Articulation, Resonation, Mastication and Deglutition
Reading: Chapter 6 & Chapter 7
Supplemental: http://www.youtube.com/watch?v=uxHUuqLeNzk (MBS)

Week 14, November 27th, November 29th
Topic: Physiology of Articulation, Resonation, Mastication and Deglutition
Reading: Chapter 7 & Chapter 8

Week 15, December 4th (** exam), 6th (review for final)

Exam: December 4th: Articulation and Resonation, Mastication and Deglutition
Topics (8th): Review for final

Final Exam:
Comprehensive Exam Thursday, 12/13/18 3:00-5:00

CSAD 111: Anatomy & Physiology of the Speech Mechanism

This course has been designed to be in direct support of the following American Speech-Language Hearing Association (ASHA) Knowledge and Skills Acquisition for certification in Speech-Language Pathology: