

## SHS 310 – Anatomical and Physiological Bases for Speech

Fall 2024 A

Section line number: 70000

*This syllabus is subject to change with reasonable advance notice. Please consult the syllabus on Canvas regularly.*

The course syllabus and all other class materials (PowerPoint slides, handouts, assignments, digital recordings, exams, quizzes, etc.) are intellectual property of Arizona State University and are not to be publicly distributed or otherwise commercialized since these materials are copyright protected. Such materials are for sole use in that designated semester. It cannot be used in any other form unless via a written statement of approval from the instructor. Provision of course materials to commercial note taking services are prohibited in accordance with ACD 304-06 available at <http://www.asu.edu/aad/manuals/acd/acd304-06.html> **To emphasize, the provision of course materials to Course Hero, Chegg, etc. is a violation of academic integrity and is subject to sanctions.**

The last day to register or add a course without college approval for this course is August 23, 2024. The drop deadline is August 28, 2024.

### INSTRUCTOR

**Dr. Juliet Weinhold**

Zoom: <https://asu.zoom.us/j/7960793663>

[juliet.weinhold@asu.edu](mailto:juliet.weinhold@asu.edu)

Office hours: TBD

(or by appointment; contact me by email)

**UGTA: TBA**

link to be added

[@asu.edu](mailto:@asu.edu)

TBD

**UGTA: TBA**

link to be added

[@asu.edu](mailto:@asu.edu)

TBD

### Course Objectives and Expected Learning Outcomes

This course is a noncadaveric study of anatomical systems that underlie human speech and language, including respiration, phonation, articulation, swallowing, and related nervous system processes. Outcomes are listed below:

1. Utilize basic anatomical terminology to accurately describe anatomical structures,
2. Describe the anatomy and mechanics of respiration, phonation, articulation and resonance,
3. Analyze the physiology and mechanics of all stages of the swallow,
4. Describe the anatomy and mechanics of neurological processes involved in speech planning and production,
5. Identify neuroanatomical substrates of the three components of speech motor control: a) cognitive-linguistic process, b) sensorimotor planning and programming, c) neuromuscular execution., and
6. Explain the effect of neural injury on speech and language.

#### Certification Standards

Satisfactory completion of this course is intended to assist students in obtaining crucial skills to meet the standards set forth by the American Speech-Language-Hearing Association (ASHA) for the Certificate of Clinical Competence in Speech-Language Pathology, effective January 1, 2020. Specifically, this course addresses Standard IV-B and Standard IV-C by providing students with knowledge of anatomical and physiological aspects of typical and disordered speech and swallowing. Specific areas addressed in this course appear **boldfaced** in the text below:

Standard IV-B: The applicant must demonstrate knowledge of basic human communication and swallowing processes, including the appropriate **biological, neurological**, acoustic, psychological, **developmental** and linguistic and cultural bases. The applicant must have demonstrated the ability to integrate information pertaining to normal and abnormal human development across the life span.

Standard IV-C: The applicant must have demonstrated knowledge of **communication and swallowing disorders and differences**, including the appropriate **etiologies, characteristics, and anatomical/physiological**, acoustic, psychological, developmental, and linguistic and cultural correlates in the following areas: **Speech sound production**, to encompass **articulation, motor planning and execution**, phonology, and accent modification; Fluency and fluency disorders; **Voice and resonance**, including **respiration and phonation**; Receptive and expressive language, including phonology, morphology, syntax, semantics, pragmatics (language use and social aspects of communication), prelinguistic communication, paralinguistic communication (e.g., gestures, signs, body language), and literacy in **speaking**, listening, reading, and writing; Hearing, including the impact on speech and language; **Swallowing/feeding, including (a) structure and function of orofacial myology and (b) oral, pharyngeal, laryngeal, pulmonary, esophageal, gastrointestinal, and related functions across the life span**; **Cognitive aspects of communication, including attention, memory, sequencing, problem solving, and executive functioning**; Social aspects of communication, including challenging behavior, ineffective social skills, and lack of communication opportunities; Augmentative and alternative communication modalities.

## Textbook

### Required text and audio materials:

Seikel, Drumright & Hudock (2021). Anatomy and Physiology for Speech, Language and Hearing (6th ed). Plural Publishing.

The required material for this course, Anatomy & Physiology of Speech, will be provisioned as an e-book and made available at a discounted price significantly cheaper than if purchased directly from the publisher. If you wish to take advantage of this discounted group price, no additional action is needed. Following the drop/add period, a charge of \$121.25, plus tax, will post to your student account under the header "Digital Integrated Course Mtrl" and your access will continue uninterrupted.

If you'd rather purchase the material from an alternate source, you may choose to opt out of the program by using this link: <https://includedcp.follet.com/1230>. Enter your ASU e-mail address AS IT APPEARS IN THE ASU DIRECTORY (<http://asu.edu/directory>), then follow the instructions provided. Be aware that if you do opt-out, your access to the e-book will be discontinued. TO ACCESS THE E-BOOK, CLICK ON THE BRYTEWAVE TOOL IN YOUR COURSE'S CANVAS SHELL.

Please note: the ebook won't appear on your shelf until approximately 5 days prior to the start of classes. If you need assistance accessing the book or the opt-out portal, fill out the support request form: <https://forms.gle/uD4GhBxMoixnbwYx5>. **Canvas:** Log onto Canvas at [canvas.asu.edu](https://canvas.asu.edu) for all materials associated with this course.

## Required Technology, Technical Support and Internet Outage Plan

This is a fully online course; therefore, it requires a computer with internet access and the following technologies:

- Web browsers ([Chrome](#), [Mozilla Firefox](#), or [Safari](#))
- [Adobe Acrobat Reader](#) (free)
- [Adobe Flash Player](#) (free)
- Webcam, microphone, headset/earbuds, and speaker
- Microsoft Office ([Microsoft 365 is free](#) for all currently-enrolled ASU students)
- Reliable broadband internet connection (DSL or cable) to stream videos.

*Note:* A smartphone, iPad, Chromebook, etc. will not be sufficient for completing your work in ASU Online courses. While you will be able to access course content with mobile devices, you must use a computer for all assignments, quizzes, and virtual labs.

You have access to 24/7 technical support. Full details of this support are provided in the **ASU Policies** section. A summary of available resources is provided below:

1. To monitor the status of campus networks and services, visit the System Health Portal at <http://syshealth.asu.edu/>.
2. To contact the help desk you have two options:
  - a. For immediate assistance, call ASU at 1-855-278-5080.
  - b. Visit the My ASU Service Center ([my.asu.edu/service](https://my.asu.edu/service)) to get personalized support through 24/7 live chat or by submitting your request online.

Network and internet outages are never expected. Be prepared and have a plan in case you find yourself without internet. Use the document provided below to help you make this plan:

[Click here to download an internet outage plan template](#)

## Evaluation methods:

As we cover the material, you will be expected to read the assigned text **before** you complete the assignments. It is in your best interest to listen to all lecture videos and take notes. All materials provided and assignments required are designed to help you get the most out of the class.

**Homework Assignments and labs:** Homework assignments are to be submitted online by 11:59 pm on the date of the deadline listed in the syllabus (usually Sundays); directions are provided on Canvas. Homework assignments are worth 10 or 20 points each, depending on the length of the assignment. Homework completed with 100% accuracy will receive 10/10 or 20/20 points; homework completed with 90-99% accuracy will receive 9/10 or 18/20 points. Lessons with scores below 90% will not receive credit; however they may be repeated until your desired score is

achieved. There are 7 labs (usually due on Fridays) which will consist of video information and a worksheet to complete and upload. Your lowest lab score will be discarded.

**Examinations:** There will be 6 examinations worth 90 points each. The final examination, Exam 7, will be administered in two parts, one worth 90 points and the other worth 10 points, for a total of 100 points. The final exam is due on the last day of the semester, Oct 11, 2024 at 11:59 pm.

**Participation:** To encourage active viewing of the lectures, participation questions are embedded into some lectures for you to complete while viewing the lecture. Other questions are presented as short assignments to turn in after the lecture has been viewed. Participation assignments will also be due on Fridays, to encourage viewing of lectures before lab assignments are attempted. Contact the TA or instructor if you have any technical difficulty with the embedded participation questions. Generally speaking, each participation question is worth 2 points. It is possible that discussion questions may be added during the semester, and these activities will be included in the participation total.

## Course Schedule

**See the final page of the syllabus for the course schedule. It is provided there so you can easily detach and post in a prominent place, giving you frequent reminders of assignments and due dates.**

While every effort is made to keep the course evaluation process consistent with what is in the initial syllabus, slight changes may have to be made as the semester progresses. These changes will be communicated thoroughly to the students and although total points may potentially fluctuate, the percentages remain constant, meaning there is no intention of harm to the student's grades. Any changes to the course evaluation process will be posted on Canvas as part of an announcement; however, it is the student's responsibility to be aware of the points and their grade and be proactive in speaking to the instructor if there are questions or concerns. Students should not rely on Canvas or other students if they have a question on their grade in class; contact the instructor.

## Grading Policy:

Item	Points possible	Percent of grade
Homework (13 assignments)	160	16
Labs (7; throw out lowest score)	120	12
Exams 1-6	540	54
Final exam	100	10
Participation	80	8
TOTAL	1000	100

## Grade breakdown:

Letter grade	Numerical Equivalent
A	90-100%
B	80-89.9%
C	70-79.9%
D	60-69.9%
E	Below 60%

Plus and minus grades will be determined by class distribution

## Make-up work/late submission general policy:

Assignments should be handed in on the day they are due. **Late assignments may not be accepted.** However, an assignment that is due on the date of an anticipated absence (due to athletic participation, religious observance, etc.) will be given credit if it is handed in ***in advance***. When working on a computer or a word processor, please save your work frequently and always print a copy of what you have done before you leave the terminal. Computer crashes, malfunctions, etc. cannot excuse you from turning in the assignment on time.

In the event of illness, extenuating circumstances or requested exceptions for missing a due date, you will be asked to provide written documentation.

Late exams and assignments will incur a 10% penalty per day. Should you be unable to complete an exam or assignment, **proper documentation has to be provided so that you may complete the work for credit.** Each case of missed coursework will be handled on an individual basis. Late assignments *may* not be accepted.

## CLASS EXPECTATIONS

### Attendance Policy

Because this is an online class, attendance is not expected for any particular date and time. In the event that an exam or assignment is due on a religious holiday or occurs with some unforeseen event, there are accommodations for religious practices, university sanctioned activities, and death of a family member. Read more about these policies in the **ASU Policies** section.

### Student Success Tips:

As we cover the material, you will be expected to read the assigned text **before** you access course materials. It is in your best interest to take notes during lectures and reading; they will be especially helpful in preparing for examinations, homework and labs.

### Time Management

Your success in this class depends greatly on the time you spend on independent study and completion of assignments. In general, for a 7.5 week online class, expect to spend a minimum of **6 hours** for **each** credit hour **per week** studying outside of class. So, for a 3-credit class you should set aside 18 hours per week for just that one class. Add on extra time around mid-terms and finals. How much time does that leave you for work, relaxation, and other commitments? Here are some resources to help you get organized and create a study plan. [Click here to calculate your available study time](#)

### Study Techniques

It is important that you access all materials and complete all assignments to be successful in your college career. To support this, you should take a look your study habits. Consider *where*, *when*, and *how* you study. For example, trying to read a complex paper in a loud coffee shop may be too distracting for you to really understand the material. Waiting until the last minute to write a paper rarely yields good results. Take a look at the guide provided below for more suggestions to optimize your study time. [Click here to access a study guide](#)

### Active Reading

You will have to read a lot throughout your degree! It is common practice to highlight content as you read it to help remember it. Studies show, however, that this is not as effective as previously thought. A much better way to help you process and retain the information is to write down the important points and quiz yourself as you read. This is known as “active reading.” Download the handout provided below to get started on this simple technique that can help you from day one at ASU. [Click here to access the active reading technique guide](#)

### Artificial Intelligence

While use of AI can be beneficial in many ways, submission of assignments in which it is clear the student has copied and pasted text from an AI prompt will not be welcomed. If you opt to use AI as a resource, you are expected to paraphrase into your own words. If it is suspected that you submitted an assignment in which AI was the primary source, you may be required to complete an oral interview with the instructor to verify your understanding of the content in order to receive credit.

### Available Academic Resources

ASU has a wealth of resources to enable your success. [Click here to check out the University Academic Success Programs](#) website that includes information on the writing center, tutoring, supplemental instruction, graduate academic support and more.

## ASU POLICIES

### ASU Excused Absences

#### Accommodation for Religious practices in accordance with [ACD 304-04](#)

**Summary:** Administrators and faculty members are expected to reasonably accommodate individual religious practices (e.g., by an adjustment to the academic or workplace environment, such as rescheduling, flexibility in scheduling, voluntary substitutions, job reassignments, modification of grooming requirements). A refusal to accommodate is justified only when undue hardship to the university's legitimate business purposes would result from each available alternative of reasonable accommodation (e.g., requires more than ordinary administrative costs, diminishes the efficiency in other jobs, infringes on other employees' job rights or benefits, or impairs campus/workplace safety). Contact the Office of the Provost of the University or the Office of Equity and Inclusion for assistance in determining undue hardship or reasonable accommodation.

#### Missed class due to University-sanctioned activities in accordance with ACD 304-02

**Summary:** Students who participate in university-sanctioned activities that require classes to be missed, shall be given opportunities to make up examinations and other graded in-class work. However, absence from class or examinations due to university-sanctioned activities does not relieve students from responsibility for any part of the course work required during the period of the absence.

The provost of the university or designee shall determine, for the purposes of this policy, whether a particular event qualifies as a university-sanctioned activity.

In each college, a specific individual (e.g., dean's designee) shall be responsible for facilitating adherence to this policy. In particular, students who participate in university-sanctioned activities shall,

1. In accordance with any academic unit or college requirements, be provided make up assignments, examinations, or other graded coursework that was missed because of the university-sanctioned activity without penalty; if this is not possible,
2. Receive an incomplete, with arrangements made for completing the final coursework and earning a final grade.

### Campus Network or Canvas Outage and Technical Support

When access to Canvas is not available for an extended period of time (greater than one entire evening) you can reasonably expect that the due date for assignments will be changed to the next day (assignment still due by 11:59pm). To monitor the status of campus networks and services, please visit the [System Health Portal](#).

**Technical Support** - This course uses Canvas to deliver content. It can be accessed through the Canvas home page at:  
<http://myasucourses.asu.edu>.

To monitor the status of campus networks and services, visit the System Health Portal at <http://syshealth.asu.edu/>.

To contact the help desk you have two options:

For immediate assistance, call ASU at 1-855-278-5080.

Visit the My ASU Service Center ([my.asu.edu/service](http://my.asu.edu/service)) to get personalized support through 24/7 live chat or by submitting your request online.

For more information the following resources are suggested:

Undergraduate Academic Advising: <http://asu.force.com/kb/articles/FAQ/How-do-I-schedule-an-appointment-with-an-undergraduate-academic-advisor/>

ASU Email Guide: <http://asu.force.com/kb/articles/Informational/ASU-Email-Guide/>

ASU Wireless Network: [http://asu.force.com/kb/articles/How\\_To/How-to-Connect-to-ASU-s-Network/](http://asu.force.com/kb/articles/How_To/How-to-Connect-to-ASU-s-Network/)

## Disability Accommodations:

Qualified students with disabilities who will require disability accommodations in this class are encouraged to make their requests to me at the beginning of the semester either during office hours or by appointment. Note: Prior to receiving disability accommodations, verification of eligibility from the Student Accessibility and Inclusive Learning Services (SAILS) [formerly DRC - Disability Resource Center] is required. Disability information is confidential. Establishing Eligibility for Disability Accommodations: Students who feel they will need disability accommodations in this class but have not registered with Student Accessibility and Inclusive Learning Services (SAILS) should contact SAILS immediately. For campus-specific location and 5 of 8 P a g e 6 | 8 contact information, eligibility and documentation policies, contact <https://eoss.asu.edu/accessibility>. SAILS offices are open 8 a.m. to 5 p.m. Monday – Friday.

Email: [Student.Accessibility@asu.edu](mailto:Student.Accessibility@asu.edu)

SAILS Phone: (480) 965-1234

SAILS FAX: (480) 965-0441

## Academic Integrity and Student Code of Conduct:

### Academic Integrity

While interaction among students is encouraged, all work performed on the class assignments and quizzes must be that of the student taking the quiz. Any indication that the work on a quiz or exam is not that of the student can lead to a range of consequences from failing the quiz to failing the course and reporting the lack of academic integrity to the College. No use of work by other students can be used, and no work taken verbatim and directly from other sources (e.g., the internet, artificial intelligence like ChatGPT) can be used. Academic honesty will be taken very seriously in this course. When only a portion of an activity requires cooperation with others, the rest of the assignment must reflect **individual** work.

ASU expects and requires its students to act with honesty, integrity, and respect. Required behavior standards are listed in the Student Code of Conduct and Student Disciplinary Procedures (<http://www.asu.edu/aad/manuals/ssm/ssm104-01.html>), Computer, Internet, and Electronic Communications policy (<http://www.asu.edu/aad/manuals/acd/acd125.html>), ASU Student Academic Integrity Policy (<http://provost.asu.edu/academicintegrity>), and outlined by the Office of Student Rights & Responsibilities (<https://eoss.asu.edu/dos/srr>). Anyone in violation of these policies is subject to sanctions. The ASU student [academic integrity policy](#) lists violations in detail. These violations fall into five broad areas that include but are not limited to:

1. Cheating on an academic evaluation or assignment.
2. Plagiarizing.
3. Academic deceit, such as fabricating data or information.
4. Aiding academic integrity policy violations and inappropriately collaborating.
5. Falsifying academic records.

### Student Code of Conduct

Please consult <http://students.asu.edu/srr/code> for the ASU Student Code of Conduct. Violations of the ASU Student Code of Conduct, other than the provision concerning academic dishonesty, are more generally considered inappropriate behavior. The [Office of Student Rights and Responsibilities](#) reviews and sanctions these matters. If a student violates both the academic integrity provision and additional provisions of the Student Code of Conduct, both the college and the Office of Student Rights and Responsibilities will review the matter. Each independently makes determinations concerning violations and appropriate sanctions.

### Disruptive or Violent Behavior

Students are entitled to receive instruction free from interference by other members of the class (<http://www.asu.edu/aad/manuals/ssm/ssm104-02.html>). An instructor may withdraw student from the course when the student's behavior disrupts the educational process per Instructor Withdrawal of a Student for Disruptive Classroom Behavior (<http://www.asu.edu/aad/manuals/usi/usi201-10.html>).

Appropriate online behavior (also known as netiquette) is defined by the instructor and includes keeping course discussion posts focused on the assigned topics. Students must maintain a cordial atmosphere and use tact in expressing differences of opinion. Inappropriate discussion board posts may be deleted by the instructor.

## Title IX

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at <https://sexualviolenceprevention.asu.edu/faqs>.

As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, <https://eoss.asu.edu/counseling>, is available if you wish discuss any concerns confidentially and privately.

## Copyright

This syllabus and all other course materials (PowerPoint slides, handouts, assignments, quizzes, exams, digital recordings, etc.) are intellectual property of Arizona State University and are not to be publicly distributed or otherwise commercialized since these materials are copyright protected. **Publishing, uploading, linking, redistributing, and/or downloading course material may subject students to penalties for academic misconduct.** Such materials are for sole use in that designated semester. It cannot be used in any other form unless via a written statement of approval from the instructor of record. Provision of course materials to commercial note taking services are prohibited without written permission from the instructor of record in accordance with ACD 304-06 available at <http://www.asu.edu/aad/manuals/acd/acd304-06.html>. This includes PowerPoint slides and PowerPoint slides with audio.

## Third-Party Software and FERPA

During this course you might have the opportunity to use public online services and/or software applications sometimes called third-party software such as a blog or wiki. While some of these are required assignments, you need **not** make any personally identifying information on a public site. Do not post or provide any private information about yourself or your classmates. Where appropriate you may use a pseudonym or nickname. Some written assignments posted publicly may require personal reflection/comments, but the assignments will not require you to disclose any personally identifiable/sensitive information. If you have any concerns about this, please contact your instructor.

*See the following page for course schedule and assignments.*



## Course Schedule and Topic Outline – SHS 310

<b>Dates</b>	<b>SHS 310: Due dates</b>	<b>Reading assignments</b>
Aug 22 – Aug 25	<b>Module 0: Introduction and Anatomical Terminology</b> 8/22 Academic Integrity Agreement and Syllabus Quiz due 8/25 Homework – Anatomical Terminology due	Chapter 1 through p. 30 Pdf titled “1. Introduction and Terminology”
Aug. 26 – Sept. 1	<b>Module 1: Introduction, Anatomical terminology, and Respiration</b> 8/30 All in-lecture participation questions due 8/30 Module 1 Lab due 9/1 Homework - Muscles of Respiration 9/1 Homework - Respiratory Volumes and Capacities 9/1 EXAM 1 due by 11:59 pm	Chapters 2 & 3
Sept. 2 – Sept. 8	<b>Module 2: Phonation</b> 9/6 All in-lecture participation questions due 9/6 Module 2 Lab due 9/8 Homework – Intrinsic Laryngeal Structures 9/8 Homework - Voice disorders 9/8 EXAM 2 due by 11:59 pm	Chapters 4 & 5
Sept. 9 – Sept. 15	<b>Module 3: Articulation</b> 9/13 All in-lecture participation questions due 9/13 Module 3 Lab due 9/15 Homework - Articulatory Structures 9/15 Homework - Facial muscles 9/15 EXAM 3 due by 11:59 pm	Chapters 6 & 7
Sept. 16 – Sept. 22	<b>Module 4: Articulation &amp; Resonance</b> 9/20 All in-lecture participation questions due 9/20 Module 4 Lab due 9/22 Homework – Muscles of the Soft Palate 9/22 EXAM 4 due by 11:59 pm	Continue Chapters 6 & 7
Sept. 23 – Sept. 29	<b>Module 5: Swallowing and Orofacial Myofunctional Disorders (OMD)</b> 9/28 Homework – Anatomy of Swallowing 9/28 Module 5 Lab due 9/29 All in-lecture participation questions due 9/29 EXAM 5 due by 11:59 pm	Chapter 8
Sept. 30 – Oct. 6	<b>Module 6: Neuroanatomy and Physiology I</b> 10/4 All in-lecture participation questions due 10/4 Module 6 Lab due 10/6 Homework – Cortical Structures 10/6 Homework – Action Potential 10/6 EXAM 6 due by 11:59 pm	Chapter 11 & 12: pp.601-653, 686-711, 748-769
Oct. 7 – Oct. 11	<b>Module 7: Neuroanatomy and Physiology II</b> 10/7 All in-lecture participation questions due 10/9 Module 7 Lab due 10/10 Homework – Basal Ganglia 10/10 Homework - CNS and speech review 10/11 EXAM 7 due by 11:59 pm	Chapter 11 & 12, pp. 655-686, 769-799