

SYLLABUS
CSD 457: Introduction to Hearing & Speech Science
University of Wisconsin-Stevens Point
Fall 2022
T/TR 2:00-3:15 pm CBB 261: In-Person Lecture

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Office Hours: Dr. Craig: M/W 10am-12pm, or by appointment
Dr. Fischer: TBD
Sierra: TBD

E-mail: We will typically reply within 1 day, but it may be slightly longer if your email does not require an urgent reply. We cannot guarantee that we will check or respond to email during evenings and weekends (We may be out of town or busy with family responsibilities). If you believe that you are delayed on an important matter because we have not replied to your email within 2 business days, then you are responsible for contacting us in person or over the phone (leave a voicemail message if we do not answer).

Prerequisites and Co-requisites:

- CSD 260, 264, 345, & 351; and
- Math 100
- OR consent of instructor and/or department

Course Description:

This course covers the physical characteristics of sound, anatomy and physiology of the auditory, speech, and vestibular (i.e., balance) systems, and perception of sound (i.e., psychoacoustics). The course is designed for students who are majoring in Communication Sciences and Disorders but may be of interest to students in other majors, such as physics. The course will provide pre-audiology students with sufficient background for AuD-level course work and will also cover information that will be useful to future speech-language pathologists. Specific applications of the course material in both normal and disordered populations will be discussed. Per the UWSP course catalog: “Measurement of sound; application of acoustic principles to human hearing; anatomy and physiology of the hearing mechanism; introduction to psychoacoustics. Acoustic and physiologic elements of speech production and perception.”

Required Textbooks:

Emanuel, D. C., & Letowski, T. (2009). *Hearing Science*. Baltimore: Lippincott Williams & Wilkins.
Ferrand, C. T. (2014). *Speech science: An integrated approach to theory and clinical practice* (3rd ed.). Pearson Education: Upper Saddle River, NJ.

Additional required readings will be available on the course Canvas site or online. Please check Canvas regularly.

Course Objectives:

1. Students will demonstrate knowledge of the physical characteristics of sound and will apply that knowledge to some examples of sound in the environment, and to normal and disordered hearing.
2. Students will demonstrate knowledge of the anatomy and physiology of the peripheral and central auditory system and will apply that knowledge to some examples of normal and disordered hearing.
3. Students will demonstrate basic knowledge of sound perception (i.e., psychoacoustics) in humans, and will apply that knowledge to some examples of normal and disordered hearing and perception.
4. Students will recall the anatomy and physiology of the speech mechanisms as a basis for learning the concepts of speech science.
5. Students will demonstrate understanding of sound, acoustics, speech perception and speech production.
6. Students will describe theories of speech perception.
7. Each student will explain the importance of analyzing speech related to clinical practice.

Instructors' Objectives:

In order to help you achieve the above objectives, we will do the following:

- 1) Prepare classes that include a mix of lecture and learning activities that are designed to engage you in the material and facilitate your learning;
- 2) Explain difficult concepts to the best of our ability;
- 3) Be available during office hours to answer questions or discuss the material;
- 4) Provide a non-threatening environment in which it is acceptable to learn by trying new ideas, and to not always have the "right" answer.

Commitment to Inclusion and Equity/COVID-19

We would like to build a learning environment for students that supports different thoughts, perspectives, and experiences, and honors your identities (including race, gender, class, sexuality, religion, ability, etc.). We also understand that the current crisis of COVID, economic disparity, and health concerns could impact the conditions necessary for you to succeed. Our commitment is to be there for you and help you meet the learning objectives of this course. If you feel like your performance in the class is being impacted by your experiences outside of class, please do not hesitate to come and talk with us. We want to be a resource for you!

The University of Wisconsin-Stevens Point recognizes that this is a difficult time which may be filled with uncertainty as we move forward with the academic year. Your safety, health, and well-being, as well as that of our faculty and staff are our primary concern and we want to be able to support you in any way that we can.

The University understands that at this time you may be facing some obstacles that would make it difficult to meet your academic goals. Please use the Student Resources page on the UWSP Coronavirus (COVID-19) website for information and resources on basic needs such as housing, food, financial aid, and medical and mental health. The webpage also offers information on official University communications, access to technology, and student services.

You are not alone, and together we will navigate these extraordinary and difficult times.

Revised from Marquette Raynor Memorial Libraries

Course Requirements:

Exams: There will be three exams throughout the semester and one final exam. Exams are closed-book, closed-notes, and will be mostly multiple-choice with some short answer. **The final exam is comprehensive.**

In-Class Assignments: On some days (approximately 8-12 throughout the semester), there will be in-class assignments where you will be asked to review and/or apply information that has been recently covered. These will not be announced ahead of time, and they cannot be made up. You will be required to turn in your assignment at the end of class. It will be graded as a 1 if it is completed, and as a 0 if it is incomplete or not turned in. You will be graded on the percentage of possible 1 grades that you earn, and you are allowed one free 0 grade without penalty.

Electronic Devices:

Due to the likelihood of distracting both the user and others in the class, electronic/mobile devices (computers, tablets, phones) *may not* be used during class lectures or exams but may be used during in-class assignments. If you require an electronic device due to a documented disability or other special circumstance, please see one of us as early as possible in the semester.

Grading:

Your final grade is determined by averaging your percent correct (*not* total number of points) on the following components. We'll calculate your final grade using the following weighting scale:

In-class assignments (total)	10%
Exams I, II, and III	21.67% for each exam
Final Exam	25%

Grading Scale:

UWSP Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F
Percentage	92-100	90-91.9	88-89.9	82-87.9	80-81.9	78-79.9	72-77.9	70-71.9	68-69.9	60-67.9	<60

Grading and Making Up Exams:

If you believe a mistake has been made in recording one of your grades, please bring it to our attention as soon as possible, and **no later than BEFORE the final examination begins.** If you believe there is a mistake in your final exam grade, please bring it to our attention as soon as possible.

Exams will not be returned to you, but you are welcome to come to our office hours (or email us to make an appointment) to look at your exam. If you do not understand why you earned a particular grade or a particular number of points, you may ask politely in order for you to better understand what you did wrong. Please do not request a change to your grade. We will automatically (even without you asking) consider the possibility of a grade change, and if we believe that a change is warranted, we will make the change. If you believe we made a mistake in adding points, please feel free to politely bring it to my attention.

If you believe you will need to miss an exam, you must notify us **as soon as possible.** Exams may only be made up for excused reasons such as major illness or family emergency, and please be prepared to provide documentation whenever possible. (We understand that Student Health Services does not provide notes excusing students from class). A make-up exam may be different from the regular exam but will cover the same content.

In general, in-class assignments may not be made up, but you are allowed one free “0” grade with no penalty. If you have extenuating circumstances (such as hospitalization or ongoing major family emergency) that may cause you to miss multiple classes and in-class assignments during the semester, please see us and we may be able to arrange a make-up plan.

Please understand that assignment and exam schedules are intended to foster equal opportunity for each student in the class. Out of respect to your classmates, please act and plan responsibly to meet the same requirements as everyone else.

Please refer to the Division of Student Affairs for a description of your rights and responsibilities:
<http://www.uwsp.edu/stuaffairs/Pages/default.aspx>.

Please refer to UWSP Academic Affairs and Dean of Students Offices for other information pertaining to academic conduct; in particular, see the University handbook, especially chapter 5 regarding classroom activities: <http://www.uwsp.edu/acadaff/Pages/handbook.aspx>.
<http://www.uwsp.edu/AcadAff/Handbook/CH5-6%2011-12.pdf>
<http://www.uwsp.edu/dos/Pages/Information%20for%20Students.aspx> (Dean of Students)

Professionalism:

This class is part of your training for your professional career. Professional behavior and attitude are expected. This includes, but is not limited to, respect and tolerance of others, and acting responsibly and with integrity.

For examples of Codes of Ethics for Speech and Hearing Professionals, see:

American Academy of Audiology Code of Ethics

<http://www.audiology.org/resources/documentlibrary/Pages/codeofethics.aspx>

Or

American Speech-Language Hearing Association Code of Ethics

<http://www.asha.org/policy/ET2010-00309/>

Academic Misconduct:

Academic misconduct will not be tolerated, and the UWSP Student Misconduct procedures will be followed for any instances of academic misconduct.

Students with Disabilities:

If any student has a documented disability and requires accommodations in meeting these requirements, please see us as early as possible in the semester to discuss accommodations. Please note that we cannot apply accommodations retroactively to a class requirement that you’ve already completed. Thus, if you are unsure whether or not you need an accommodation, it is best to discuss the possibility with us beforehand, and we can then decide the best way to proceed.

Religious Observances:

We will accommodate religious beliefs according to UWS 22.03 if you notify us within the first 3 weeks of the semester regarding specific dates with which you have conflicts.

“In the event of a medical emergency, call 911 or use red emergency phone. Offer assistance if trained and willing to do so. Guide emergency responders to victim.

In the event of a tornado warning, proceed to the lowest level interior room without window exposure. See www.uwsp.edu/rmgt/Pages/em/procedures/other/floor-plans for floor plans showing severe weather shelters on campus. Avoid wide-span rooms and buildings.

In the event of a fire alarm, evacuate the building in a calm manner. Meet across the street in the parking lot of the Multi-Activity Center. Notify instructor or emergency command personnel of any missing individuals.

Active Shooter – Run/Escape, Hide, Fight. If trapped hide, lock doors, turn off lights, spread out and remain quiet. Follow instructions of emergency responders.

See UW-Stevens Point Emergency Management Plan at www.uwsp.edu/rmgt for details on all emergency response at UW-Stevens Point.”

Campus COVID-19 Update for Fall 2022 semester: Consider wearing face coverings in public spaces indoors around others and if in close proximity outdoors. Maintain physical distancing.

Course Schedule:

The course schedule is tentative and subject to change; however, the schedule for exams will not change.

Tuesday 9/6 through Tuesday 10/25: Dr. Fischer/Sierra

Thursday 10/27 through Final Exam: Dr. Craig

Day	Date	Topic	Required <i>Textbook</i> Reading (Additional required readings may be posted on Canvas).
T	September 6	Introduction to course & expectations	Review syllabus
Th	September 8	Waves, pressure, wavelength, velocity	Emanuel: pgs 89-93, 96, 98-102
T	September 13	Impedance, sound pressure & intensity	Ferrand Chapter 1
Th	September 15	Resonance	Ferrand Chapter 2
T	September 20	The Articulatory System	Ferrand Chapter 3
Th	September 22	Articulatory System Con't	
T	September 27	Catch-up/application/review	
Th	September 29	Exam I	
T	October 4	The Phonatory System	Ferrand Chapter 5
Th	October 6	Phonation: Guest Lecture	
T	October 11	Respiration	Ferrand Chapter 7
Th	October 13	Respiration Con't	
T	October 18	Speech Production Models/Theories	Ferrand Chapter 13
Th	October 20	Speech Perception Models/Theories	
T	October 25	Exam II	
Th	October 27	Taxonomy of sounds	Emanuel pgs 102-106
T	November 1	Absorption, reflection, refraction, reverberation	Emanuel Chapter 6
Th	November 3	Reverberation, diffraction, interference	
T	November 8	Doppler effect, SNR, Acoustic systems, Begin Decibels	Emanuel pgs 119-127
Th	November 10	Decibels	Emanuel Chapter 7
T	November 15	Decibels Con't	
Th	November 17	Exam III	
T	November 22	Outer Ear	Emanuel Chapter 8
Th	November 24	No class: Happy Thanksgiving!	
T	November 29	Middle Ear	
Th	December 1	Inner Ear, Auditory Nerve	Emanuel Chapter 9
T	December 6	Inner Ear, Auditory Nerve	
Th	December 8	Inner Ear, Auditory Nerve & begin CANS	Emanuel Chapter 10
T	December 13	CANS	
Th	December 15	Catch-up/application/review	
Fri	December 16	Final Exam	2:45-4:45pm CBB 261