



THE UNIVERSITY of NORTH CAROLINA
GREENSBORO

CSD 307 Speech & Hearing Science

Fall 2021 Course Syllabus and Calendar

Prerequisites: Admission to the undergraduate major or pre-professional study track

Co-Requisites: CSD 306, CSD, 308, and CSD 309

Instructor: Dr. Robert Mayo; **E-mail:** r_mayo@uncg.edu; **Office:** 314 Ferguson Bldg.

Office Hours for Course-Related Matters: Tuesday 10:00 am -12:00 pm via Zoom or Hangout

Graduate Assistant: Hannah Connolly, B.S. **E-mail:** hkconnolly@uncg.edu

For Whom Planned: Students admitted to the undergraduate major or pre-professional study track in the Department of Communication Sciences and Disorders.

Communication: I will respond to your email correspondences within 24 hours when submitted between Monday and Thursday. If your message is sent on Friday, Saturday, or Sunday, I will respond to you by the following Monday (unless your email pertains to **accessing** a quiz or exam).

Course Description: An asynchronous online course focusing on the acoustic principles of speech and hearing; analysis of the acoustic characteristics of speech and physiological correlates; and speech perception. Thus, this course is divided into three sections: Acoustics of Sound, Speech Acoustics and Perception, and Spectrographic Analysis. There are 11 Topic Modules (M0 – M10) in which course content is shared. There are PowerPoint lecture slide documents for 10 of the Modules (M1 – M10).

Student Learning Objectives: (Meet elements of ASHA KASA Standard III-B)

Upon successful completion of this course, students will be able to:

- 1) Identify the basic characteristics of sound.
- 2) Distinguish the physical and psychoacoustic properties of sound.
- 3) Demonstrate understanding of the sound properties through performing different calculations.
- 4) Describe the concept of Fourier analysis of a complex sound.
- 5) Apply the principals of acoustics on speech production and speech perception.
- 6) Utilize technical terms associated with speech and hearing sciences.
- 7) Interpret graphic representations of speech signals (spectrograms).

Course Materials:

Required Text: Lawrence J. Raphael, Gloria J. Borden, & Katherine S. Harris (2011). *Speech Science Primer*, Sixth Edition. Lippincott, Williams and Williams. A digital version of this text is also available through the publisher.

Technical Requirements: To successfully complete this course, you will need the following technical equipment/software.

- Computer and reliable Internet Access
- Headset and microphone for the Spectrogram Project (no earbuds with a microphone)
- Audacity software application (free and a link to it is provided by your instructor)

Technology Requirements: A SECURE HIGH-SPEED INTERNET CONNECTION is required for this course. It is the student's responsibility to ensure secure Internet connection before accessing the Canvas account, quizzes, and exams. Any technology reasons will not be accepted as an excuse for inability to access reading materials posted on Canvas, missing the due date for quizzes or exams. So, plan accordingly.

Special Needs:

UNCG seeks to comply fully with the Americans with Disabilities Act (ADA). For students with documented physical or learning differences and/or disabilities, appropriate arrangements can be made for completion of assessment experiences. However, documentation of these differences and/or disabilities must be made available to the instructor by the end of the second week of classes. Please bear in mind that this is an online course and all activities and assessments will be delivered online without exception. Information regarding disabilities and/or differences will be kept confidential. Students requesting accommodations based on a disability must be registered with the Office of Accessibility Resources & Services (OARS) in 215 Elliott University Center, 334-5440, www.oars.uncg.edu. Students are required to provide the instructor with a letter from OARS at the beginning of the semester that outlines the accommodations that need to be made in order to maximize your learning experiences and success in class. If you are unsure whether you need special accommodations, please contact the OARS.

Health and Wellness:

Your health impacts your learning. Throughout your time in college, you may experience a range of health issues that can cause barriers to your learning. These might include physical ailments, illnesses, strained relationships, anxiety, high levels of stress, alcohol/drug problems, feeling down, or loss of motivation. Student Health Services and The Counseling Center can help with these or other issues you may be experiencing. You can learn about the free, confidential mental health services available on campus by calling 336-334-5874, visiting the website at <https://shs.uncg.edu/> or visiting the Anna M. Gove Student Health Center at 107 Gray Drive. Help is always available.

Required Course Assignments: All exams and quizzes will be completed online via Canvas and are open-book/open-notes/open-material tests that must be completed independently and without any collaboration with classmates/other students. You will submit your Spectrogram Project to the Assignments section of the course Canvas site.

- 1) **Exams (200 points):** Two required exams will be administered online through Canvas---the **midterm** and **final** exams, with **each exam worth 100 points**. Exams will be designed to assess students' cumulative knowledge over the course of the semester. The exam material will come from the materials posted on Canvas i.e., PowerPoint slides, Web Links, and the assigned readings in the textbook or elsewhere. The exams are timed, have a three-hour limit, and you will have **one (1) opportunity to take them**. Exams may consist of multiple-choice, matching/fill-in the blank, true-false, and short answer. The second exam will include the course material covering spectrograms. (SLO 1,2,3,4,5,6, &7). Once the exams begin, neither I nor my G.A. will respond to questions about test items.
- 2) **Quizzes (100 points):** There will be **10 required online quizzes** for this course (one for each module), each worth 10 points. Questions will come from the assigned materials for the week. You will have **10 minutes to complete** each online quiz and you will have **two (2) opportunities to earn your best grade**. Quiz access is located within the corresponding Module. Once the quizzes begin, neither I nor my G.A. will respond to questions about quiz items. You will be provided with feedback about quiz responses AFTER the quiz closes. (SLO 1,2,3,4,5,6, &7). **Quizzes open on Fridays at 12:00 pm and close on Sundays at 6:00 pm.**
- 3) **Spectrogram Project (100 points):** The instructions about the project will be provided through Canvas after the midterm exam. (SLO 6&7). **The Project is due on November 22nd by 5:00 pm.**

Grade Scale (VERY IMPORTANT. READ ALL OF THIS!)

Your final grade will be based on the **total number of points you earn on course activities** (i.e., quizzes, exams, Spectrogram Project). Grades are then calculated by taking the total points earned, divided by the total points available, and multiplying that number by 100%. **For example: 376 total points/400 possible points x 100 = 94% = 'A'**. See this grading formula in the table below along with the associated letter grades. **NOTE: I do not round up grades.**

Total Course Points Earned Divided to 400 Possible Points x 100	Letter Grade
376-400 points (94% - 100%)	A
360-375 points (90% - 93.75%)	A-
348-359 points (87% - 89.75%)	B+
336- 347 points (84% - 86.75%)	B
320-335 points (80% - 83.75%)	B-
308-319 points (77% - 79.75%)	C+
296-307 points (74% - 76.75%)	C
280-295 points (70% - 73.75%)	C-
268-279 points (67% - 69.75%)	D+
256-267 points (64% - 66.75%)	D
240-255 points (60% - 63.75%)	D-
Less than 239 points (59.75% and below)	F

CSD 307 Speech & Hearing Science Course Calendar: Fall 2021

DATE	MODULE	READINGS & ASSIGNMENTS	DUE DATE (6:00 pm)
First Day of Class	M0: Introduction and Overview	Read syllabus, course calendar, and course content.	-----
SECTION 1: Acoustics of Sound			
Aug 16	M1: Sine Waves	Chapter 2 Quiz 1	Aug 22
Aug 23	M2: Interaction of Waves	Chapter 2 Quiz 2	Aug 29
Aug 30	M3: Sound Filtering	Chapter 2 Quiz 3	Sept 5
Sept 6	M4: Acoustics of Tubes	Chapter 5, pages 93-98 Quiz 4	Sept 12
Sept 13	M5: Volume & Hearing. Humans & Loudness	Chapter 2, Pages 20-35; Chapter 9; Read Article: 'Noise Exposure: Explanation of OSHA & NIOSH Safe-Exposure Limits & Importance of Daily Dosimetry' Quiz 5	Sept 19
Sept 20	Self-Prep for Midterm Exam	Preparation. No Quiz this week.	-----
Sept 27	Midterm Exam Covers M1 to M5	MIDTERM EXAM (Online)	Opens Sept 27 at 12:00 noon Closes Sept 29 at 3:00 pm
DATE	SECTION 2: Speech Acoustics and Perception		
Oct 4	M6: Vowel Acoustics	Chapters 3, 4, & 5 Quiz 6	Oct 10
Oct 11	M7: Consonants Acoustics (semivowels, fricatives & affricates)	Chapters 6 & 10 Quiz 7	Oct 17

Oct 18	M8: Consonant Acoustics (Stops and nasals), Speech Perception, & Instructions for Spectrogram project.	Chapters 6, 10, & 11 Quiz 8	Oct 24
Oct 25	M9: Suprasegmental Acoustics	Chapter 7 Quiz 9	Oct 31
SECTION 3: Spectrographic Analysis			
Nov 1	M10: Acoustic Analysis Work on your Spectrogram Project.	Chapter 13 Quiz 10	Nov 7
Nov 8 - Nov 21	Work on your Spectrogram Project.	-----	-----
Nov 22 Last Week of Class	Submit your Spectrogram Project. Start self-preparation for the Final Exam.	SPECTROGRAM PROJECT	Nov 22 Due by 5:00 pm
Exam Week	Final Exam Covers M6 to M10	FINAL EXAM (Online)	Opens Dec 6 at 8:00 am Closes Dec 6 at 3:00 pm