

College of Health and Human Services
Department of Health Sciences: Communication Sciences and Disorders
CSD 376: Hearing Science
3 credit hours
Fall 2022

Instructor: Melanie L. Moore, Au.D., CCC-A
E-mail: melanie.moore@nau.edu

Course prerequisites

None

Course purpose

The purpose of this course is to introduce students to the foundation of hearing science, and to prepare them for future coursework in the related fields.

Course description

Introduction to normal hearing processes, focusing on the anatomy and physiology of the auditory system, acoustics of sound, and psychoacoustics.

Learner Outcomes

You will be able to:

- Describe the basic physical attributes of sound. (Standard III-A)
- Describe simple physical systems used in the processing of sound. (Standard III-A)
- Describe the anatomy and physiology of the peripheral auditory system. (Standard III-A, Standard III-B)
- Describe ways in which simple sounds are processed by the peripheral auditory system. (Standard III-A, Standard III-B)
- Describe processes that influence the human perception of sound. (Standard III-B)

ASHA 2014 Standards

Standard IV – A

The applicant must have demonstrated knowledge of the biological sciences, physical sciences, statistics, and social/behavioral sciences.

Standard IV – B

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

Course Structure/Approach

The course will generally involve lectures, classroom discussions and activities, readings, and assignments. Knowledge will be evaluated by assignments and examinations.

Text

None at this time.

Readings

All topics will be covered in lectures and as needed, in supplemental readings that will be supplied. Emphasis will be placed on information covered in lectures. You will be responsible for any outside readings assigned in class.

Lectures

Each topic will be presented through a recorded lecture (Dr. Daniel Boss). You are required to download and view all lectures. All tests and assignments will be based on information provided in lectures and any supplemental readings.

Outcome Measures

1. Achieving 60% or better on tests of clinical knowledge.
2. Achieving 60% or better on class assignments of clinical knowledge.

Evaluation Methods

Grades: Grades will be based on the total points you achieve. Letter grades will be assigned as follows:

| | |
|---|--------------------|
| A | 1170 – 1300 points |
| B | 1040 – 1169 points |
| C | 910 – 1039 points |
| D | 780 – 909 points |
| F | ≤ 779 points |

Assessment of Learner Outcomes

Assignments (50 points each, 800 points total): Each week you will have one or more assignments to evaluate your knowledge of materials covered through the lecture. The format of these assignments is multiple choice, matching, short answer, and/or essay. You are responsible for the completion of each assignment.

To open and work on the assignment:

- Click Assignment;
- Click the Assignment Title, for example: "Module 1, Assignment 1";
- Click Begin.

As you move from one question to the next, your answers will automatically be saved. At the top of the assignment page, you can click "Question Completion Status" to find out which answers have been completed and saved. You may enter and leave assignments as often as you would like. If you "save" the answers, the answers will be available when you reopen the assignment.

When you are finished with the assignment and ready to submit it, click “Save and Submit”. Once submitted, you cannot make any changes to your answers. You have **two (2) attempts per assignment**. Your highest score achieved will be recorded for your grade on that assignment.

All assignments are due at the end of the week, by Saturday at 11:59 PM. **Late may not be accepted.**

Examinations (100 points each, 300 points total): Three examinations will be given to evaluate your knowledge of the subject matter:

- Exam 1 - Overview and Acoustics: The Physics of Sound.
- Exam 2 - Anatomy and Physiology of the Outer, Middle, and Inner Ears.
- Exam 3 - Psychoacoustics

The format of the exams is multiple choice, matching, fill-in-the-blank, and/or short answer. **You will only be able to open the exam once so be sure you are ready to take the exam before you open it.** Once you open the exam, you will have two (2) hours in which to complete the exam. Once the exam is submitted you may not reopen it. **You will only have one attempt for each exam.** Each exam is to be taken by each student individually abiding by the NAU Academic Code of Integrity (see attached). If cheating is suspected or confirmed, evaluation methods will be modified.

Any exam that is missed can be made up during the last week of class. **You must email me and let me know that you will need to take the make-up exam. I will not automatically assume that you would like to take the make-up exam.** The make-up exam will be cumulative and will be primarily short answer and essay. If you miss more than one exam, your grade on the make-up exam will be counted for only one of your missed exams (i.e. it cannot be counted for multiple missed exams).

All exams are available at the beginning of the week and due at the end of the week on Saturday at 11:59 PM.

Labs (75 points each, 150 points total): The labs are designed to provide a “hands-on” and critical thinking learning experience to some of the concepts taught in the class. Each lab will be available for several weeks and can be turned in any time before or on the due date. Please note that you may need to wait for some of the concepts to be taught in lecture to correctly answer the questions on the labs.

Discussion Questions (10 points each, 50 points total): Discussion questions will be created throughout the course of the semester and will be available for a week. Points will be given based on the quality of your responses.

Course Policies and Procedures

All PowerPoints, lectures, and assignments are available. The assignment for the associated week is due on Saturday by 11:59 PM (MST). **Late work may not be accepted.** If you have

concerns that you will not be able to submit something on time, please email me in advance so I can attempt to make accommodations for you.

The Course Timeline is available on the landing page under “Syllabus and Course Timeline”. This document will provide information regarding the module for the week, the date each assignment is due, the date both labs and the discussion questions are due, and the date each exam opens and closes. I reserve the right to modify the timeline, as needed.

Communication

The best way to communicate with me is through NAU email: melanie.moore@nau.edu. I will try my best to respond to your email within 48 hours.

Respect: Keep in mind that I am your professor and expect to be treated with respect in your e-mails. I, in turn, will respond to you with respect. Guidelines to be followed when writing your e-mail include using an appropriate subject line, greeting, and salutation, and proofreading your e-mail before sending it.

Student Work Responsibility

You are responsible for completing all work, including assignments, discussions and tests. If you should encounter problems that interfere with or potentially interfere with your ability to fulfill the course requirements, *please notify me as soon as possible*. While I do not necessarily need to know the details of the problems, you should at least identify a “generic” contributor to the problem (e.g. health, finances, living situation, personal, etc.). If you do not feel comfortable discussing your situation with me, contact **Student Support Services** at <http://home.nau.edu/edsup/sss/> or **523-6980**. **Please do not wait until the conclusion of the semester to explain any interruptions and/or disruptions to your studies.**

NAU Student Handbook

To become familiar with NAU rules and regulations, and NAU policies, it is recommended that you read the **NAU Student Handbook**. It is available at <http://home.nau.edu/studentlife/handbook.asp>.

Code of Academic Integrity

ACADEMIC DISHONESTY is a form of misconduct that is subject to disciplinary action under the Student Code of Conduct and includes the following: cheating, fabrication, fraud, facilitating academic dishonesty and plagiarism.

1. **Plagiarism:** any attempt to pass off other's work as your own
2. **Cheating:** any attempt to gain an unfair, hidden advantage over one's fellow students
3. **Fabrication:** any attempt to present information that is not true
4. **Fraud:** any attempt to deceive an instructor or administrative officer of the university

Students engaging in activity meeting the definition of academic dishonesty are subject to one of the penalties listed below. As the faculty member, I reserve the right to assign the penalty based upon my perception of the severity of the offense.

- Assign the student extra course work.
- Require the assignment or examination to be repeated.
- Reduce the grade on the assignment or examination.
- Award zero grade on the assignment or examination.
- Require the student to drop the course.
- Award a failing grade in the course.

The complete Academic Dishonesty policy may be found at the following URL:

http://www4.nau.edu/stulife/StudentHandbook/Appendix_G_AcademicDishonesty.htm

Other University Policies

Other University Policies and their web sites are as follows:

Safe Working and Learning Environment: <http://home.nau.edu/diversity/>.

Students with Disabilities: dr@nau.edu

<http://nau.edu/Disability-Resources/>

Institutional Review Board: <http://www.research.nau.edu/vpr/IRB/index.htm>