

California State University, Fresno
Department of Communicative Disorders and Deaf Studies

CDDS 131

Principles of Audiology

Prerequisites: CDDS 80, 95; and 102 (or CDDS 121); priority will be given to seniors; co-requisite: CDDS 128.

Purpose of the course:

This course is designed to provide a logical sequence between the instructional components and field work. The course provides an introduction to the field of Audiology, hearing loss and its medical aspects, introduction to hearing conservation, assessment and management of people with hearing losses; and interpretation of diagnostic test results.

Textbooks:

1. DeBonis & Donohue (2008) **Survey of Audiology: Fundamentals for Audiologists and Health Professionals, 2/E**
2. iClicker remote control
3. Supplemental readings
 - a. Manual for the School Audiometrist (State of California)
 - b. Handbook of supplemental readings for CDDS 131
4. CDDS 131 study modules on Blackboard
<http://blackboard.csufresno.edu/>

Primary Learning Outcomes:

The goals for this course are intended to prepare the students for graduate study in Speech-Language Pathology or Deaf Education. Students who have successfully completed this course will demonstrate competencies in the following areas:

- Understand the basics of the field of Audiology and the role of an audiologist.
- Demonstrate knowledge about certification, licensure, credential, and ethical conduct.
- Learn the basic vocabulary related to sound waves and their attributes, and hearing sensitivity.
- Learn the use of a sound level meter and measure some commonly occurring sound levels.
- Learn the basic anatomy and physiology of the balance and hearing mechanisms.
- Describe the pathways of sound conduction in human hearing.

- Demonstrate knowledge of the procedure for Hearing Conservation recommended by the State of California.
- Describe how excessive noise affects human hearing and learn ways of reducing the impact of noise.
- Learn the basic audiological evaluation procedure using pure tones.
- Learn the basics of the concept of masking and the necessity for its use.
- Learn the basic procedure for evaluating the hearing function with various site-of-lesion tests.
- Understand the significance of speech audiometric testing.
- Describe the significance of the hearing sensitivity test results.
- Learn the impact of various types and degrees of hearing loss on communication.
- Describe some common pathologies of the auditory system and their effects on the clients and their families.
- Learn the significance of age, gender, and race in normal and pathological functioning of the ear.
- Describe the basics of audiological rehabilitation.

Grading (100% of the semester grade)

Examinations: Quizzes and attendance together are worth 25% of the semester grade. There will be two class exams and a final exam. Each of the three exams is worth 25% of the semester grade.

1. Class quizzes and assignments	(200 points)	
Course activities with iClicker, class attendance	(50 points)	250 points
2. Two class exams		500 (250 points each)
3. Final comprehensive examination		250 points
	TOTAL	1000 points

Grading criteria:

Grades are assigned according to University Policy as outlined in the General Catalog.

Grades will be determined based on the following:

A = 90 - 100%

B = 80 - 89%

C = 70 - 79%

D = 60 - 69%

F = 0 - 59%

Grades of I, W, CR/NC will be issued ONLY as noted in the General Catalog.

Examinations (75% of the semester grade)

Including the final exam, there will be three exams during the semester. Each of the three exams will be worth 25% of the total grade.

Quizzes and assignments (20% of the semester grade)

There will be periodic quizzes and assignments throughout the semester.

Course activities with iClicker and attendance (5% of the semester grade)

There will be course activities using iClickers during most class sessions. In case you do not bring the iClicker to the class, you will be unable to participate in the iClicker activities for that day and will not receive any credit. You will not have an opportunity to make it up either.

The exams and quizzes are administered to assess your knowledge/comprehension, application, and analysis/synthesis of the textbook and lecture material. All exams must be taken on the scheduled date and time. Make-up exams will be given only under documented emergencies. Students must get oral permission to take a make-up exam before it is administered in the class. Post-hoc requests will not be honored.

Missed quizzes are not eligible for make-ups. Any missed quiz or assignment will be given a score of 0. Assignments are due at the beginning of the class period on the date it is due. It is your responsibility to make sure that assignments are turned-in on time.

Email:

The University provides free email accounts to all students. All CDDS 131/128 students are required to use their mail.fresnostate.edu email address for all Blackboard and instructor related communications. If you need assistance in setting up your Fresno State email account, please let me know.

Class Attendance:

Your attendance at each class is mandatory unless excused by your instructor or otherwise permitted in accordance with the college's academic calendar for this semester. There will be course related activities during most class periods using iClickers. If you must miss a class due to significant illness or other extenuating circumstances, please notify your instructor in advance of the class. At the instructor's discretion, you may be asked to demonstrate knowledge of any missed lecture material or assigned readings through oral or written means.

Students who leave early from class or show up more than 5 minutes late for class will be assigned an unexcused absence. Two absences are allowed before points will be deducted

at 5 points per class from the possible 50 points. No make-ups will be allowed for assignments, lab competency evaluations, or examinations unless an excused absence has been cleared with the instructor in advance and is an extenuating circumstance as judged by the instructor. You must notify instructor before class via email or phone call of your absence. It is your responsibility to request a make-up exam and complete it within a timely manner (one week of returning). If you are absent from class, it is your responsibility to check on announcements made while you were away.

A request to drop a class for a serious and compelling reason must be completed in pen on an add/drop card and must be approved by the instructor, the department chair, and the University Dean of the Undergraduate Studies. Documentation will be required prior to approval of a drop for serious and compelling reasons. Failing or performing poorly in a class is not an acceptable serious and compelling reason within the university policy, nor is dissatisfaction with the subject matter, class, or instructor. If for some reason, you are not in a position to take this class and would like to drop it, please do so during the regular drop period.

Readings and class preparation:

This document is supplied so that the student may read and be prepared to take part in class. Reading should provide a good basis for topic exploration. Class discussion and instructor experience provides additional resources. It is suggested that the student plan to attend class regularly and to take part in class discussion and activities. Questions always need to be asked. Others in the class may have the same questions that you have but are too shy to ask. The best time to ask for an explanation of something that you do not understand is before going on to new material.

Study suggestions:

1. Plan to spend sufficient time working with the anatomical models, charts, and instruments.
2. Read the assigned pages before the material is covered in the class.
3. Bring your books to class. You will need it to refer to diagrams, charts etc. during the lecture.
4. Review lecture notes after each class. Refer to the focus outline to be sure you have studied the main points.
5. Study regularly, not the night before the exam.
6. Please see me right away, if you need help with the subject matter.

Classroom behavior:

Disruptive behavior in the classroom will not be permitted. Students found disrupting the

class will be disciplined as per the university academic policy. Use of pagers or cell phones in the class is strictly prohibited. Turn them off before entering the class. Do not send text messages or check your email/voice during the class period. You are allowed to converse/discuss with fellow students only if the teacher has asked you to participate in a collaborative learning activity. Do not converse using sign language either during the class lectures, as it is likely to distract the rest of the students. When the teacher walks into the classroom, it is time to cease your conversations immediately so that the class can get on with the business of learning. Continuing your conversation past the teacher's entrance into the classroom is considered as disruptive behavior.

Students are expected to treat the instructor and each other with civility, common courtesy, and respect. Students who fail to do so may be asked to leave a class session. Talking while a member of the class or the instructor "has the floor" and is speaking is considered disruptive behavior.

Required Syllabus Policy Statements

Students with Disabilities: Upon identifying themselves to the instructor and the university, students with disabilities will receive reasonable accommodation for learning and evaluation. For more information, contact Services to Students with Disabilities in the University Center Room 5 (278-2811).

Honor Code: "Members of the CSU Fresno academic community adhere to principles of academic integrity and mutual respect while engaged in university work and related activities." You should:

- d) understand or seek clarification about expectations for academic integrity in this course (including no cheating, plagiarism and inappropriate collaboration)
- e) neither give nor receive unauthorized aid on examinations or other course work that is used by the instructor as the basis of grading.
- f) take responsibility to monitor academic dishonesty in any form and to report it to the instructor or other appropriate official for action.

Cheating and Plagiarism: "Cheating is the actual or attempted practice of fraudulent or deceptive acts for the purpose of improving one's grade or obtaining course credit; such acts also include assisting another student to do so. Typically, such acts occur in relation to examinations. However, it is the intent of this definition that the term 'cheating' not be limited to examination situations only, but that it include any and all actions by a student that are intended to gain an unearned academic advantage by fraudulent or deceptive means. Plagiarism is a specific form of cheating which consists of the misuse of the published and/or unpublished works of others by misrepresenting the material (i.e., their intellectual property) so used as one's own work." Penalties for cheating and plagiarism range from a 0 or F on a particular assignment, through an F for the course, to expulsion from the university. For more information on the University's policy regarding cheating

and plagiarism, refer to the Class Schedule (Legal Notices on Cheating and Plagiarism) or the University Catalog (Policies and Regulations).

Computers: "At California State University, Fresno, computers and communications links to remote resources are recognized as being integral to the education and research experience. Every student is required to have his/her own computer or have other personal access to a workstation (including a modem and a printer) with all the recommended software. The minimum and recommended standards for the workstations and software, which may vary by academic major, are updated periodically and are available from Information Technology Services (<http://www.csufresno.edu/ITS/>) or the University Bookstore. In the curriculum and class assignments, students are presumed to have 24-hour access to a computer workstation and the necessary communication links to the University's information resources."

Disruptive Classroom Behavior: "The classroom is a special environment in which students and faculty come together to promote learning and growth. It is essential to this learning environment that respect for the rights of others seeking to learn, respect for the professionalism of the instructor, and the general goals of academic freedom are maintained. ... Differences of viewpoint or concerns should be expressed in terms which are supportive of the learning process, creating an environment in which students and faculty may learn to reason with clarity and compassion, to share of themselves without losing their identities, and to develop and understanding of the community in which they live . . . Student conduct which disrupts the learning process shall not be tolerated and may lead to disciplinary action and/or removal from class."

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TOPICS:

Module I

Introduction: Audiology - An Overview

Reading assignments: *Chapter 1 Textbook, handouts*

Audiology as a profession; licensing and certification

Prevalence and incidence of hearing loss

Impact of hearing loss on individuals and society

Audiology specialties and employment settings – Scope of practice

Audiologists/Speech Pathologists/Teachers of Deaf and HOH

Overview of anatomy and physiology (A&P) of the hearing mechanism

Reading assignments – *Chapter 3; Manual for the School Audiometrist: pages 6 to 10; and*

Class handouts

The auditory pathway from the outer ear to the auditory cortex

Review of the A&P of the outer ear/Middle ear/Inner ear/peripheral and central auditory structures.

Basics of sound and its measurement

Reading assignments: Chapter 2; handouts; and Observations in Audiology workbook pages: 1-3

Physical and perceptual components of sound

Units of measurement of sound

Decibel dB SPL, dB HL, dB SL

Sound level meter and sound level measurement

Air conduction vs. Bone conduction

Frequency spectrum of familiar sounds

Module 2:

Hearing Conservation/Hearing screening

Reading materials: Manual for the school Audiometrist

Chapter 11: Screening

CDDS 131 Supplementary Readings Page: 4-5

Sound level measurement assignment

Hearing screening tests Newborns/infants

Hearing Conservation continued

Hearing screening tests for preschooler/school age children

Threshold tests

Follow-up

Equipment calibration

Record keeping

Noise exposure and hearing loss in children and adults

Physiological and psychological changes due to the Impact of noise

Hearing conservation measures

Eliminate the source of noise/reduce the amount of noise reaching the individual

Passive as well as active solutions

Demonstration of various noise control devices

Module 3:

Pure tone testing

Reading assignments: *Chapter 4: pure tone testing; Manual for School Audiometrist Page 37-38 on Audiometers; Sound level measurement assignment*

Pure tone threshold audiometry procedure

Frequencies to be tested by AC and BC

Minimum and maximum Hearing levels for each of the above frequencies

Threshold tracking procedure

Practice in CDDS 131 class and in CDDS 128 lab

Plotting the results on the audiogram

Types of hearing loss and the typical audiograms associated with them

CDDS 131 Handbook of supplemental readings pages: 6-7

Audiogram interpretation continued

Need for masking, when and how of masking; terminology

Masking during AC and BC testing

In class practice of need for masking

Take home assignment on need for masking

Type of loss and degree of loss assignment due in class

Module 4:

Speech Audiometry and Physiological tests for site of lesion

Reading assignments: *Chapters 5 and 6; handouts; CDDS 131 Supplemental readings Pages: 12-16*

Need for site of lesion tests

Speech Audiometry tests

Acoustic Immittance tests

Auditory Evoked Potential tests and Otoacoustic Emission (OAE) tests

Assessment of children and special populations

Reading assignments: *Chapters 8 and 9, Manual for the School Audiometrist*

Module 5

Disorders of the Auditory System

Reading assignments: *Chapter 7, 10; Manual for the School Audiometrist Page 11-15;*

Outer ear pathologies

Middle ear pathologies

Inner ear and peripheral auditory nerve pathologies

Auditory Processing Disorders

Module 6

Helping Individuals with Hearing Loss

Reading assignments: Chapter 12; Classroom handouts

Aural Rehabilitation

Amplification systems

Assistive communication and alerting devices

Audiologic management as a team approach

P.S.: The above schedule and procedures for this course are subject to change in the event of extenuating circumstances.

Assignments

All assignments required for the course are detailed in the CDDS 131 Manual and Workbook.