



# California State University, Sacramento

## Department of Communication Sciences and Disorders

### UNDERGRADUATE SYLLABUS & COURSE OUTLINE

Semester/Year: Fall 2019	Course: CSAD 130 Audiology and Hearing Testing	Section: 50
Meeting Days: Monday/Wednesday	Meeting Times: 3:30-4:45 PM	Location: Napa 1007
Instructor: Laura Gaeta, Ph.D., F-AAA	Email: l.gaeta@csus.edu	Phone: 916-278-4701
Office Location: Folsom Hall 2316	Office Hours/Appointments: Monday 1:00-2:00pm; Tuesday 2:00-3:00pm; Thursday 10:30-11:30am; or by appointment. Call 916-278-4867 to schedule.	

#### Catalogue Course Description:

**CSAD 130. Audiology and Hearing Testing.**

**3 Units**

**Prerequisite(s):** [CHDV 30](#), [DEAF 51](#), [PSYC 2](#), [STAT 1](#), [CSAD 110](#) and [CSAD 111](#)

**Term Typically Offered:** Spring only

Introduction to audiology; anatomy and physiology of the hearing mechanism; pathologies of the ear; basic acoustics of sound and its relation to hearing and speech; school hearing screening; hearing conversation; audiometric interpretation and its relationship to speech language and learning disorders.

#### Place of Course in Program:

This course is an introduction to the field of audiology. The course reviews the principles of sound, the anatomy and physiology of the ear, audiometric test methods, and interpretation of testing information for various hearing disorders across the lifespan. Other course topics include physiological measures of audiotry function, disorders of the auditory system, and assessment approaches.

The primary objective of this course is to provide students with an understanding of the field of audiology and give them opportunities to understand the principles and methods of auditory anatomy and physiology, and hearing assessment. Students should understand the basic principles of the hearing and balance mechanisms, testing procedures, interpretation of audiometric test results, disorders and related management, and the scope of practice of audiologists.

Sacramento State Baccalaureate Learning Goals for the 21st Century (BLG)	Addressed by this course (Y/N)
<b>Competence in the Disciplines:</b> <i>The ability to demonstrate the competencies and values listed below in at least one major field of study and to demonstrate informed understandings of other fields, drawing on the knowledge and skills of disciplines outside the major.</i>	Y
<b>Knowledge of Human Cultures and the Physical and Natural World</b> <i>through study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts. Focused by engagement with big questions, contemporary and enduring.</i>	Y
<b>Intellectual and Practical Skills, Including:</b> <i>inquiry and analysis, critical, philosophical, and creative thinking, written and oral communication, quantitative literacy, information literacy, teamwork and problem solving, practiced extensively, across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance.</i>	Y

<b>Personal and Social Responsibility, Including:</b> civic knowledge and engagement—local and global, intercultural knowledge and competence*, ethical reasoning and action, foundations and skills for lifelong learning anchored through active involvement with diverse communities and real-world challenges	Y
<b>Integrative Learning**, Including:</b> <i>synthesis and advanced accomplishment across general and specialized studies</i>	Y

**Course Learning Outcomes:**

**UNDERGRADUATE**

Mastery of each student-learning outcome listed below is indicated by a grade of C or better on each component of the corresponding measures listed in the table. Students are required to track their progress towards meeting each learning outcome and must make an appointment with the instructor for any grade equal to or less than a C. The instructor will suggest strategies to help you establish competence and knowledge in these areas.

Students should track their progress towards meeting each learning outcome by listing their grades on the table below over the course of the semester.

**CSAD 130 SPECIFIC STUDENT LEARNING OUTCOMES:**

1. Outline the history and contemporary practices related to the profession of audiology.
2. Explain the nature of sound, including concepts related to acoustics (e.g., pressure, intensity, frequency) and psychoacoustics (e.g., loudness, pitch, and binaural hearing).
3. Describe the basic principles of and the behavioral and physiological procedures used to assess the auditory and vestibular systems in infants, children, and adults.
4. Perform pure-tone audiometric testing.
5. Interpret behavioral and physiological test results.
6. Describe disorders of the auditory and vestibular system that impact communication.
7. Discuss appropriate assessment and rehabilitation procedures for children and adults with hearing impairment.

<b>Course Learning Outcome</b>	<b>Components Indicating Competence</b>	<b>Grades Received</b>
1	Exams Quizzes	
2	Exams Quizzes	
3	Exams Worksheets Labs	
4	Labs	
5	Worksheets Exams Labs Quizzes	
6	Exams Quizzes	

7	Exams Quizzes	
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### **Textbooks and Materials:**

Title: *Introduction to Audiology*

Authors: F. Martin & J. Clark

Edition: 13<sup>th</sup>

Note: Other selected articles, videos, and papers will be available on Canvas. Students are responsible for assigned readings, whether discussed in class or not. All reading assignments are for the date listed on the course schedule, not the following class period.

### **Online Resources:**

<https://canvas.csus.edu/>

### **Course Requirements/Components:**

#### **Course Format**

Lecture

#### **Class Participation and Attendance**

Attendance and participation can be earned up to 20 points; the course instructor will determine the allocation of these points. Students are expected to actively participate in class discussions, and are required to have read the assigned material prior to class meetings. Some course components (e.g. class activities, discussions, etc.) require work in pairs or small groups. Students should be respectful and demonstrate professional behavior. The use of cell phones during class is not permitted.

#### **Class Assignments**

Course grades will be based on six quizzes, two exams, a final exam, attendance/participation, two worksheets, and two lab assignments. Students are expected to work independently on assignments. Group/pair assignments will be clearly identified, but the work submitted must be the student's independent work. Assignments must be submitted on time. Assignments that are submitted after the due date/time will be deducted points for each day the assignment is late (see rubric for number of points). If more than three days have elapsed from the original due date, students will receive 0 points for the assignment. Note that some in-class activities will be collected for Dr. Gaeta to review, but not all collected activities will be graded. Rubrics for all graded class assignments will be available on Canvas. Any instances of academic misconduct will result in a 0 on that assignment or exam and will be reported according to department- and campus-level policies.

#### **Examinations**

##### Absences

An unexcused absence will result in zero points for the exam. An excused absence can only be granted by the course instructor. It is the student's responsibility to contact Dr. Gaeta within the first two weeks of the semester if he/she is unable to sit for the exam. Family members/significant others may contact the course coordinator on behalf of students who are hospitalized or are otherwise unable to speak directly with the course instructor. It is the student's responsibility to contact Dr. Gaeta about rescheduling the exam (including the make-up exam form), providing documentation for missing the exam, and scheduling a make-up exam with the Testing Center the week prior to finals week at the Testing Center or at a location deemed appropriate by the instructor. Scheduling conflicts due to work or family travel are not eligible for make-up exams; these absences will result in a zero on the exam. The final exam is scheduled according to the Registrar's Office. Students with accommodations should notify the instructor early in the semester to allow for accommodations for the full semester (i.e. a student who notifies the instructor of accommodations halfway through the semester may have those accommodations for the remaining assignments of the semester; past assignments and exams cannot be retaken).

If a student is given permission to miss an exam, a make-up exam will be administered during the week prior to the final exam at the Testing Center on campus. The make-up exam may be formatted differently from the original exam at the discretion of the course instructor.

#### Test arrival/start

The exam will start at 3:30pm. Students must arrive at least 5 minutes prior to the exam start time. Students should wait quietly outside the classroom while the instructor prepares the room for the exam. Upon entry into the classroom, students are required to leave all personal belongings (study materials, cell phones, textbooks, backpacks, etc.) at the front of the room prior to sitting for the exam. Students must turn off (not silence or vibrate mode) their cell phones and any other electronic devices (Apple watches, smartwatches, tablets, etc.) upon entering the room. No hats or jackets may be worn during the exam. Students must bring their own pencils and Scantron to the exam, and should have only a pencil on the desk prior to the exam start time. Clear water bottles may be kept at the student's desk.

Once students enter the room for the exam, students are not permitted to leave the room. Students who arrive late will not receive extra time to take the exam and may miss the start of the exam. Students who do not bring a Scantron form will receive a 0 for the exam. Extra Scantron forms will not be provided on the day of the exam. Students who arrive after the first student has finished the exam and left the room will not be able to sit for the exam, hereby receiving a 0 for the exam. Format of questions on the exams includes, but is not limited to: multiple choice, fill-in-the-blank, short answer, labeling, drawing, and matching. Students must bring their own Scantron forms and pencils to the exam. Non-graphing calculators (e.g., TI-83/TI-84) may be used, if required, for test items. Cell phone calculators cannot be used for any graded class assignments or exams.

#### Test duration and completion

No content questions will be allowed during the exam. Students who have questions about the exam should write it on the front of the exam; concerns will be reviewed after all students have completed the exam. The test period for exams is 75 minutes. Verbal and/or visual reminders of remaining time will be given prior to the end of the exam. Any stray marks on the Scantron will not be evaluated even if the student considers them accidental; pencil marks should be erased thoroughly. Upon completion of the exam or the end of the testing period (whichever is first), students must submit their exam and Scantron to the course instructor at the front of the room. Students must show that their names are on the exam and Scantron when turning in the exam. Scantrons that cannot be scored by the machine due to wrinkles, stains, etc., will not be scored (i.e., the student will receive a 0). No exam questions should be copied or removed from the room; removal of exam content is considered cheating, and violators are subject to the academic honesty policy and procedures (which includes a grade of 0 for the exam). Textbooks, study materials, and notes are not permitted for use during the exam.

#### **Quizzes**

Quizzes will be available on Canvas one week prior to the due date. Quizzes are based on the assigned reading and not on the information presented in lecture. There are six quizzes to complete. Students are expected to complete the quiz before the scheduled due date. Students will have 60 minutes to take the quiz; late submissions will receive a 0. Make-up quizzes will not be given.

#### **Labs**

There are two lab assignments in this class. Rubrics for scoring each assignment are provided on Canvas. Students should review their work using the available rubrics before submitting their assignments.

#### Screening lab

The screening lab assignment will be completed in class, and the students will complete the written portion at home. In pairs, each student will perform a brief listening check of a portable audiometer and conduct a pure-tone screening of a classmate. Each student will then complete a form summarizing the results of the screening and submit the form with the assignment by October 21. Late lab assignments will lose 5 points for each day that has passed between the due date and the date on which the assignment was submitted; exceptions to this policy will be on the rubric.

### Virtual audiometry lab

The virtual audiometry lab will be completed out of class. Instructions for the lab assignment will be provided during class on November 13. Students will conduct virtual audiometry sessions and submit their final audiograms and interpretations online. Students are expected to work independently on the audiometry lab. Lab assignments must be submitted by 3:30pm on December 2.

### **Audiometry worksheets**

There are two audiometry worksheets for this class. The worksheets are intended to provide opportunities to practice audiometry-related course content throughout this unit, and will consist of a case or audiogram with a brief set of questions. The audiometry worksheets should be completed individually. Audiogram worksheets are due by the start of class on the due date listed on the course schedule.

### **Grading Policy:**

All rubrics for associated assignments will be available on Canvas.

<b>Source</b>	<b>Points</b>	<b>% of Grade</b>
Exam I	50	16.67%
Exam II	50	16.67%
Final exam	100	33.33%
Audiogram worksheets	20 (10 points each x 2)	6.67%
Labs		10%
Hearing screening	15	
Virtual audiometry	15	
Quizzes	30 (5 points each x 6)	10%
Attendance/participation	20	6.67%
<b>Total</b>	300	100%
Extra credit for receiving all attendance/participation points	5	
Extra credit assignment	5	

Letter grades are assigned according to the following scores:

<b>Points</b>	<b>%</b>	<b>Letter</b>
	95-100	A
	90-94	A-
	87-89	B+
	83-86	B
	80-82	B-
	77-79	C+
	73-76	C
	70-72	C-
	67-69	D+
	63-66	D

	60-62	D-
	< 60	F

Note: Scores that are on the border between two grades will be rounded (e.g. 94.5% will be 95%, 89.5 will be 90%, etc.) Scores that will round to another letter grade by the second digit after the decimal place (e.g., 89.45) will round to the tens decimal place and follow the first note (e.g., 89.5 will round to 90%). Values beyond the second digit will not be considered.

### Course Policies/Procedures:

#### Class Participation and Attendance

Classroom attendance is necessary for this course. Report absences to Dr. Gaeta by email prior to the scheduled class meeting. If students are absent on a day when attendance was taken, the absence may be excused with appropriate and timely documentation for valid reasons or extenuating circumstances at the discretion of the instructor. Documentation for the excused absence must be provided via an email to the course instructor prior to or within 48 hours of the missed class period. For unexcused absences or absences that do not meet the above criteria, students will receive 0 points for that day's attendance.

Students should arrive to class on time and remain for the duration of the class. Students who are late and miss attendance (if taken that day) are responsible to check with the instructor about missed material during class and obtain the missed notes from a classmate. When late to class, students are expected to make every effort to enter the room quietly and settle quickly so that the instructor and classmates are not disturbed. Students are expected to be in the classroom by 3:30pm.

#### Class Preparation

All required readings are for the date listed in the course schedule, not the following class period. Students are responsible for all assigned readings, whether discussed in class or not. Students who miss class must obtain the assignments and missed work from the course website or from a classmate. Course materials will be available on Canvas and/or in class. Recording of lecture is not permitted unless the student has received prior approval (with appropriate documentation) from the instructor. The use of computers for purposes other than class assignments or note-taking is not permitted.

### Tentative Course Schedule/Outline:

Date	Topic/Class Content	Readings	Assignment/Activities due (by 3:30pm)
8/26	First day of class Course introduction		
8/28	Profession of audiology	Pages 4-16	
9/2	<i>No class – Labor Day</i>		
9/4	Nature of sound: Intensity and loudness	Pages 17-40	
9/9	Nature of sound: Frequency and pitch	Pages 17-40	
9/11	Review: The nature of sound Anatomy and physiology of the outer ear	Pages 224-230	<b>Quiz 1 due</b>
9/16	Anatomy and physiology of the middle ear	Pages 245-251	
9/18	Anatomy and physiology of the inner ear and central auditory nervous system	Pages 279-290; 322-326	
9/23	Review for Exam I		<b>Quiz 2 due</b>
9/25	<b>Exam I (Dr. Gaeta away at conference)</b>		
9/30	How we hear: Thresholds and the audiogram	Pages 75-92	
10/02	Types of hearing impairment and impact of hearing loss	Pages 58-63	
10/07	Sound measurement-audiometers and	Pages 40-52	<b>Worksheet #1 due</b>

	hearing screening Hearing assessment- Pure-tone air and bone conduction testing		
10/09	Hearing assessment- Pure-tone air and bone conduction testing Hearing assessment-Masking	Pages 63-100 Pages 133-159	<b>Quiz 3 due</b>
10/14	Screening lab (Group A)	See Canvas	
10/16	Screening lab (Group B)	See Canvas	
10/21	Hearing assessment- Speech audiometry, speech threshold testing, speech recognition	Pages 101-132	<b>Screening lab due Worksheet #2 due</b>
10/23	Review for Exam II		<b>Quiz 4 due</b>
10/28	<b>Exam II</b>		
10/30	Hearing assessment- other behavioral and objective measures, immittance	Pages 160-177	
11/04	Physiological tests- auditory evoked response and otoacoustic emissions	Pages 177-193	
11/06	Disorders/Treatment of the outer ear	Pages 230-244	<b>Quiz 5 due</b>
11/11	<i>No class-Veterans Day</i>		
11/13	Disorders/Treatment of the middle ear	Pages 252-278	
11/18	Disorders/Treatment of the inner ear and auditory central nervous system; auditory processing disorders	Pages 290-321 Pages 325-350	
11/20	Anatomy and physiology of the vestibular system; disorders of the vestibular system; vestibular assessment and rehabilitation	Pages 280-282 Pages 372-378	
11/25	Tinnitus	Pages 378-387	<b>Quiz 6 due Extra credit assignment due</b>
11/27	<i>No class – Work on virtual audiometry lab</i>		
12/02	Assessment of special populations: newborn/infant screening and evaluation; testing children 1-5 years old; malingerers and functional hearing loss	Pages 195-221	<b>Virtual audiometry lab due</b>
12/04	Case studies		
12/09	Management of hearing loss	Pages 425-470	
12/11	Review for Final Exam		
TBD	<b>Final Exam</b>		

Note: All dates and topics listed are subject to change at the discretion of the course instructor. In the event of a change, you will be notified prior to class.

# Additional Information

## Commitment to Integrity:

As a student in this course (and at this university) you are expected to maintain high degrees of professionalism, commitment to active learning and participation in this class and also integrity in your behavior in and out of the classroom.

## Sac State's Academic Honesty Policy & Procedures:

“The principles of truth and honesty are recognized as fundamental to a community of scholars and teachers. California State University, Sacramento expects that both faculty and students will honor these principles, and in so doing, will protect the integrity of academic work and student grades.” Read more about Sac State's Academic Honesty Policy & Procedures at the following website: <http://www.csus.edu/umannual/student/stu-0100.htm>

## Definitions:

At Sac State, “cheating is the act of obtaining or attempting to obtain credit for academic work through the use of any dishonest, deceptive, or fraudulent means.” **Plagiarism** is a form of cheating. At Sac State, “plagiarism is the use of distinctive ideas or works belonging to another person without providing adequate acknowledgement of that person's contribution.” Source: Sacramento State University Library Note: Any form of academic dishonesty, including cheating and plagiarism, may be reported to the office of student affairs.

## Understand When You May Drop This Course:

It is the student's responsibility to understand when he/she need to consider disenrolling from a course. Refer to the Sac State Course Schedule for dates and deadlines for registration. After this period, a serious and compelling reason is required to drop from the course. Serious and compelling reasons include: (a) documented and significant change in work hours, leaving student unable to attend class, or (b) documented and severe physical/mental illness/injury to the student or student's family. Under emergency/special circumstances, students may petition for an incomplete grade. An incomplete will only be assigned if there is a compelling extenuating circumstance. All incomplete course assignments must be completed by the department's policy.

## Equal Access:

California State University-Sacramento, Department of Communication Sciences and Disorders, seeks to provide equal access to its programs, services, and activities for people with disabilities. If you have a documented disability and verification from the Office of Services to Students with Disabilities (SSWD), and wish to discuss academic accommodations, please contact your instructor as soon as possible. It is the student's responsibility to provide documentation of disability to SSWD and meet with a SSWD counselor to request special accommodation before classes start. **Sacramento State Services to Students with Disabilities (SSWD)** offers a wide range of support services and accommodations for students in order to ensure students with disabilities have equal access and opportunity to pursue their educational goals. Working collaboratively with students, faculty, staff and administrators, SSWD provides consultation and serves as the information resource on disability related issues to the campus community. SSWD is located in Lassen Hall 1008 and can be contacted by phone at (916) 278-6955 (Voice) or (916) 278-7239 (TDD only) or via email at [sswd@csus.edu](mailto:sswd@csus.edu).

## Basic Needs Support:

If you are experiencing challenges in the area of food and/or stable housing, help is just a click, email or phone call away! Sacramento State offers basic needs support for students who are experiencing challenges in these areas. Please visit our Basic Needs website to learn more about your options and resources available.

<https://www.csus.edu/basicneeds/>

## Other Resources:

Testing Center: <https://www.csus.edu/testing/>

Library: <https://library.csus.edu/>



Services to Students with Disabilities: <https://www.csus.edu/sswd/>

Student Health and Counseling Services at The WELL: <https://www.csus.edu/shcs/>

Peer & Academic Resource Center: <https://www.csus.edu/parc/>

Student Academic Success and Education Equity Programs: <https://www.csus.edu/saseep/>

Case Manager, Office of Student Affairs: <https://www.csus.edu/student/casemanager/>

# Knowledge And Skills Acquisition (KASA) For Certification in Speech-Language Pathology

## **CSAD 130 Audiology and Hearing Testing**

This course has been designed to be in direct support of the following American Speech-Language Hearing Association (ASHA) 2017 Knowledge and Skills Acquisition for certification in Speech-Language Pathology:

### Standard IV-C: Speech, Language, Hearing, Communication, and Swallowing Disorders and Differences

- The student will demonstrate the ability to analyze, synthesize and evaluate knowledge re: hearing disorders (including the impact on speech and language including the etiologies, characteristics, and anatomical physiological, acoustic, psychological, developmental, linguistic, and cultural correlates.)

### Standard IV-D: Prevention, Assessment, and Intervention

- The student will demonstrate the ability to analyze, synthesize, and evaluate knowledge re: the principles and methods of prevention, screening, and intervention regarding hearing, including the impact on speech and language.

### Standard IV-B: Basic Human Communication Processes

- The student will demonstrate the ability to analyze, synthesize and evaluate knowledge re: biological bases of human communication.