California State University, Sacramento

Department of Communication Sciences and Disorders

GRADUATE SYLLABUS & COURSE OUTLINE

Semester/Year: Fall 2021	Course: CSAD613: Instrumentation in Audiology	Section: 01
Meeting Days: Monday, Wednesday	Meeting Times: 12:00-1:15pm	Location: Folsom 2204
Instructor: Laura Gaeta, Ph.D.	Email: l.gaeta@csus.edu	Phone: 916-278-4701
Office Location: Folsom 2207A	Office Hours/Appointments: Tuesday 1:00-2:30pm; Wednesday 2:00-3:30pm; or by appointment	

Catalog Course Description:

CSAD 613.   Instrumentation in Audiology   3 Units

Prerequisite(s): Admission to the Doctor of Audiology program

Term Typically Offered: Fall only

Basic principles of electrical systems, calibration, signal processing, and analysis. Review of national standards

related to calibration and instrumentation used in audiology

Sacramento State Graduate Learning Goals (GLG)	Addressed by this course (Y/N)
Disciplinary knowledge: *Master, integrate, and apply disciplinary knowledge and skills to current, practical, and important contexts and situations.*	Y
Communication: *Communicate key knowledge with clarity and purpose both within the discipline and in broader contexts.*	N
Critical thinking/analysis: *Demonstrate the ability to be creative, analytical, and critical thinkers.*	Y
Information literacy: *Demonstrate the ability to obtain, assess, and analyze information from a myriad of sources.*	Y
Professionalism: *Demonstrate an understanding of professional integrity.*	Y
Intercultural/Global Perspectives: *Demonstrate relevant knowledge and application of intercultural and/or global perspectives.*	N
Research: *Conduct independent research resulting in an original contribution to knowledge in the focused areas of their graduate program*	Y

Course Learning Outcomes:

GRADUATE

Mastery of each student-learning outcome listed below is indicated by a grade of B 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 B. The instructor will suggest strategies to help you establish competence and knowledge in these areas. See the program's Academic Performance Improvement Plan (APIP) policy at https://www.csus.edu/college/health-human-services/communication-sciences-disorders/_internal/_documents/audiology/csad-apip-policy-spring-2020.pdf

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

GRADUATE EXPECTED LEARNER OUTCOMES (ELO)

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

1. State basic concepts of the physics of acoustic stimuli and sounds.
2. Describe the procedures for calibration of audiologic equipment.
3. Perform an electroacoustic calibration of audiometers and other audiologic equipment using national and international standards.
4. Apply principles of psychoacoustics to acoustic stimuli and environmental considerations for speech understanding.
5. Troubleshoot malfunctioning audiometric equipment.

ELO	Component Indicating Competency	Grade(s) Received
1	Exam I, Exam II, Exam III, Homework, Final Exam, Research Paper, Labs	
2	Labs, Exam I, Exam II, Exam III, Final Exam	
3	Homework, Labs	
4	Homework, Labs, Research Paper, Exam I, Exam II, Exam III, Final Exam	
5	Homework, Labs	

Textbooks and Materials:

See Canvas for readings and other materials.
American Psychological Association. (2020). *Publication manual of the American Psychological Association* (7th ed.). https://doi.org10.1037/0000165-000

Online Resources:

This course utilizes Canvas. All course materials will be available on Canvas.

Course Requirements/Components:

Course Format

Lecture

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.

Class Participation:

Students are expected to actively participate in class discussions and are required to have read the assigned material prior to class meetings.

Class Attendance:

Students are expected to arrive on time, as class begins at 12:00pm. If a student is unable to attend class, it is the student's responsibility to notify the instructor before class. Attendance is required and worth up to 15 points.

If you are sick, stay home and do not attend class. Notify your instructor. Please self-diagnose if you are experiencing any COVID- like symptoms (fever, cough, sore throat, muscle aches, loss of smell or taste, nausea, diarrhea, or headache) or have had exposure to someone who has tested positive for COVID contact Student Health & Counseling Services (SHCS) at 916-278-6461 to receive guidance and/or medical care. You are asked to report any possible COVID related illnesses/exposures to SHCS via this link COVID-19 Illness/Exposure Report Form: https://sacstateshcs.wufoo.com/forms/covid19-illnessexposure-report/ Expect a call from SHCS within 24 hours. The CDC provides a good source of information regarding COVID-19 and a way to self-check symptoms: https://www.cdc.gov/coronavirus/2019-ncov/index.html

Class Assignments:

Course grades will be based on attendance, labs, exams, a research paper, and homework. Assignments must be submitted on time. 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.

For students who become ill or who are placed under quarantine during the COVID-19 pandemic, contact the instructor so that due dates for the below assignments can be adjusted (student will not be penalized in these cases). Follow the Sacramento County Public Health Department's advice: frequently wash hands with warm, soapy water for at least 20 seconds; avoid touching eyes, nose, and mouth; cover coughs and sneezes with a tissue then throw the tissue in the trash; and stay home when you are sick. For information about COVID-19 assessment and remote learning, students are directed to the Sac State mobile app.

Labs: There will be eight labs in this course. Information about labs can be found on Canvas.

Research paper: Information about the paper can be found on Canvas. The paper is worth up to 10 points.

Homework: Homework must be submitted by the due date; homework that is submitted late or incomplete will receive a 0.

Exams

> **Exam absences**: It is the student's responsibility to contact the instructor within the first two weeks of the semester if he/she is unable to sit for the exam. It is also the student's responsibility to contact the instructor about rescheduling the exam. 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. 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.

Exam procedures: There are three exams and one cumulative final exam in this course. The exam period is 75 minutes. See Canvas for more information about the exams.

Grading:

Activity	Points Available	Points Earned	Percentage of Grade
Labs	80		32%
Exam I	25		10%
Exam II	25		10%
Exam III	25		10%
Final Exam	50		20%
Homework	20		8%
Attendance	15		6%
Research paper	10		4%
TOTAL COURSE POINTS AVAILABLE	250		

Overall percentage needed:

Note: A grade of "B" or higher is required to count toward the minimum number of units needed to advance.

Letter	%
A	93-100%
A-	90-92.99%
B+	87-89.99%
B	83-86.99%
B-	80-82.99%
C+	77-79.99%
C	73-76.99%
C-	70-72.99%
D+	67-69.99%
D	63-66.99%
D-	60-62.99%
F	< 60%

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%).

Academic conduct

Students enrolled in the Au.D. program must adhere to the Department and University policies on academic misconduct. Please see the department's policy on academic misconduct ("Policy on Student Academic and Clinical Conduct"). The following are expectations for professional behavior in the classroom:

- Ethics: Students must uphold the ethical standards set forth by professional bodies in the field (see Appendices C and D).
- Respect: Students should demonstrate respect to their peers, instructors, and staff.
- Feedback: Students are expected to self-reflect and modify their work in response to feedback, while displaying non-defensive behavior to suggestions.
- Health: Students should maintain their personal wellness and health, attending to any needs in a timely fashion in order to support their academic and professional growth.
- Attire: Students should dress appropriately for class. Classes may be held in clinic space, so students are expected to observe the clinic dress code.
- Accountability: Students are expected to be accountable, honest, and professional for their activities and communications. The general principles of ethical behavior should be applied to their coursework, evaluations, and examinations.
- Language: Students should demonstrate professional oral and written communication, including emails. Discretion and professional language should be used in all modalities, emphasizing constructive rather than reactive use.
- Scholarship: Students should take an active role in their learning, recognizing their deficiencies and seeking to correct them, as part of their commitment to lifelong learning.
- Effort: Students should collaborate and work to complete tasks and assignments on time or by the set deadline. Students are expected to follow through on all activities while maintaining professionalism and intellectual curiosity.

Attendance

Students are expected to arrive in class on time, prepared to participate and engage in classroom activities for both in-person and synchronous/virtual interactions. Students are responsible for class content, lecture materials, assignments, announcements, and must be aware of changes in the class schedule. Students are advised that instructional faculty may include an attendance policy in courses, which may require attendance as part of the student's course grade. These policies will be set in the syllabus.

Given the full-time, intensive nature this doctoral program, it is important that students contact instructors if they are absent or are anticipating absence, especially over an extended period of time. In the case of the latter, the Au.D. Program Director must also be notified. Attendance for clinical practica is outlined in the clinic handbook.

Email

Students in the Au.D. program are required to maintain an active CSUS email address, which is linked to the student ID number. Official emails will be sent through CSUS email. Students are expected to regularly check their CSUS emails.

Communication and Emergency Information

If a faculty member is not available during the semester, students will be contacted and advised how the course will proceed. This may include a change in instructor or modality.

TENTATIVE Course Schedule/Outline:

Date	Topic or Exam	Due Date
08/30	Overview of course Tour of equipment	
09/01	Introduction to hearing aid and audiologic instrumentation Identifying manufacturer information	
09/06	*No class – Labor Day*	
09/08	Sound booths	Homework 1 due
09/13	Sound frequency	Lab 1 due
09/15	Sound intensity (IL, SPL, HL), outputs	Homework 2 due
09/20	Principles of electricity and circuitry	Lab 2 due
09/22	Principles of electricity and circuitry (continued) Electrical safety	
09/27	Instrumentation calculations	Homework 3 due
09/29	**Exam I**	
10/04	Microphones, plots	
10/06	Wires, cables, and cords Wireless technology	Homework 4 due
10/11	Audiometers	Lab 3 due
10/13	Visual reinforcement audiometry	Homework 5 due
10/18	Lab 5	Homework 6 due
10/20	Immittance Tympanometer and audiometer demo	Lab 4 due
10/25	OAEs Electrophysiology	Lab 5 due
10/27	**Exam II**	
11/01	Analog and digital signal processing Frequency response Hearing aids	
11/03	Filters	Homework 7 due
11/08	Sound level meters and filters	Lab 6 due
11/10	Noise levels (Introduction to calibration	Homework 8 due
11/15	Calibration and related standards	
11/17	Calibration	Lab 7 due Homework 9 due
11/22	**Exam III**	
11/24	Lab 8	Lab 8 due
11/29	Room acoustics and speech perception Reverberation	
12/01	ABR equipment demonstration	Homework 10 due
12/06	Environmental modifications	
12/08	Electroacoustic analyses with hearing aids Troubleshooting equipment	Research paper due
12/13-12/17	**Final exam (TBA)**	

Please note that dates, topics, and assignments are subject to change. In the event of a change, you will be given ample notice.

Online Learning

For additional information, please review the CSAD Handbooks website
https://www.csus.edu/college/health-human-services/communication-sciences-disorders/student-resources.html

Zoom/ Online Instruction privacy and relevant rights and responsibilities:

Any time that a class session is recorded during the COVID-19-related Remote Instruction Period, students will be notified. If students do not want their likeness during class participation included in the recorded class session, they may elect to not participate via video recordings. Recordings will be available for viewing during the Remote Instruction Period subject to the following:

Only students enrolled in the subject class during the Remote Instruction Period may view the recording.

- Students may not post or use the recordings in any other setting (e.g., social media) for any purpose. Students who violate this will be subject to student discipline, up to and including expulsion.
- Federal and California law as well as University policies protecting intellectual property rights and use of instructional materials (including any recordings of class sessions) remain in effect during the Remote Instruction Period.
- If faculty have any plan to use the recording for a different class in the future, the faculty member will need written FERPA consent from those students in the current class who are identifiable in any of the recordings. A FERPA consent form signed by all students in the course will also be needed if the recordings are made available to others beyond the classroom on a nonsecure digital platform.

Important Tips for Success as an Online Learner

There are some basic technical skills and requirements that you will need to have to be successful in this online course. If you have difficulties using Canvas, please go through the Canvas Student Tour.

- ***Begin planning now for private, uninterrupted time in your schedule*** to complete the assignments – preferably in at least one-hour blocks and at least three times a week. It can be easy to fall behind!
- *Check your email account regularly* for updated information. We will be using your Saclink email account for communication. Use Saclink e-mail for private messages to the instructor and other students.
- Read directions carefully.
- For online communication, conventions of on-line etiquette ("netiquette"), which include a courtesy to all users, will be observed. Please see Guidelines for Online Discussions.

Attitudes & Technical Skills Required

You will find that the following attitude will significantly contribute to your success in this online class:

- A positive attitude towards technology
- An open mind towards online education
- Willingness to share your experiences with others
- Strong analytical and critical thinking skills for when you "get stuck"
- Resourcefulness - don't be afraid to click on links and explore and ask questions
- Time management

Online learning requires only basic technical skills:

- Be competent with file management (for example, creating a folder on your desktop, moving files from one location to another, finding a saved file)
- Possess internet navigation skills
- Update your Internet browser
- Send and receive email
- Create and save documents (Word, PowerPoint, Excel or HTML)
- Toggle between two open software applications on your computer
- Copy text from a word processing program and paste them into another program

Technical Assistance

Seek help when you can't access Canvas or class materials.

- For technical assistance, contact the IRT Help Desk. Visit AIRC 2005 during open hours to speak with the IRT Service Desk Team, or call (916)278-7337. IRT website.
- For assistance with course materials, contact your instructor

Spam and Phishing Scams

- Learn how to stay safe and protect yourself from hackers who may try to access your personal information: Don't Fall for a Phishing Scam
- Use anti-virus, anti-spyware, and anti-malware software. Sac State's Software and Tools available for download.
- Use pins and passwords to secure your computer and devices- don't share your password with anyone. Use strong passwords that include a combination of letters and numbers that no one can guess.

Canvas Student App

Canvas is fully functional on many types of smartphones and tablets. Compatible devices include platforms such as iPhone/iPad/iPod Touch, and Android. However, it is recommended that you do not solely rely on one of these devices to complete your online course work. Access to a computer is still needed for many online activities. Visit the Mobile section of the Canvas Guides website for more information.

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/umanual/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, shall be reported to the Office of Student Conduct.

Department Policy on Use of APA format:

The Department of Communication Sciences and Disorders requires the use of the APA format and style. All students are required to reference the APA manual. All assignments are to be composed using APA format and style unless otherwise noted.

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. Prefer 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.

Inclusivity:

Students in this class are encouraged to be active participants in all aspects of the course, including but not limited to lectures, synchronous and asynchronous activities, discussion posts, etc. Each of us must show respect for each other, as our class represents a diversity of beliefs, backgrounds, and experiences. This enriches all of our learning experiences together. Our individual differences deepen our understanding of one another and the world around us, rather than divide us. In this class, people of all ethnicities, genders and gender identities, religions, ages, sexual orientations, disabilities, socioeconomic backgrounds, regions, and nationalities are strongly encouraged to share their rich array of perspectives and experiences. If you feel your differences may in some way isolate you from our classroom community, or if you have a specific need, please contact the instructor early in the semester. Your instructor will work with you to ensure that you become an active and engaged member of our class and community.

Equal Access:

Services to Students with Disability (SSWD): Sacramento State is committed to ensuring an accessible learning environment where course or instructional content are usable by all students and faculty. If you believe that you require disability-related academic adjustments for this class, please immediately contact Services for Students with Disabilities (SSWD) to discuss eligibility. A current accommodation letter from SSWD is required before any modifications, above and beyond what is otherwise available for all other students in this class will be provided. 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.

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.

Basic Needs Support

If you are experiencing challenges with food, housing, financial or other unique circumstances that are impacting your education, help is just a phone call or email away! The CARES office provides case management support for any enrolled student. Email the CARES office at cares@csus.edu to speak with a case manager about the resources available to you. Check out the CARES website.

Title IX

The University requires faculty and staff to report any personal disclosures of sexual misconduct including rape, dating/domestic violence and stalking to the Title IX Coordinator. Students who do not wish to report their experience to me or the Title IX Coordinator may speak to someone confidentially by contacting Student Health and Counseling Services.

CSUS Grading Policy

Information for students regarding grading is provided here:

https://www.csus.edu/umanual/acad/umg05150.htm

Other Resources

- The Office of Student Affairs maintains a list of campus resources/centers: https://www.csus.edu/center/

- Testing Center: https://www.csus.edu/student-affairs/centers-programs/testing-center/

- Library: https://library.csus.edu/ for consultation : Rachel Stark, MS, AHIP, stark@csus.edu

- Services to Students with Disabilities: https://www.csus.edu/student-affairs/centers-programs/services-students-disabilities/

- Student Health and Counseling Services at The WELL: https://www.csus.edu/student-life/health-

counseling/

- Student Academic Success and Education Equity Programs: https://www.csus.edu/student-affairs/retention-academic-success/

- Crisis Assistance and Resource Education Support (CARES): https://www.csus.edu/student-affairs/crisis-assistance-resource-education-support/

- CHHS Student Success Center: https://www.csus.edu/college/health-human-services/student-success/

- Reading & Writing Center: https://www.csus.edu/undergraduate-studies/writing-program/reading-writing-center.html

- Peer & Academic Resource Center: https://www.csus.edu/student-affairs/centers-programs/peer-academic-resource/

- SMART Thinking (tutoring resource): https://www.csus.edu/student-affairs/centers-programs/degrees-project/_internal/_documents/smarthinking.pdf

Knowledge And Skills Acquisition (KASA) For Certification in Audiology

Scientific and Research Foundations

- The basics of communication sciences (e.g., acoustics, psychoacoustics and neurological processes of speech, language, and hearing)

Standard II-A: Foundations of Practice

- A5. Calibration and use of instrumentation according to manufacturers' specifications and accepted standards

- A6. Standard safety precautions and cleaning/disinfection of equipment in accordance with facility-specific policies and manufacturers' instructions to control for infectious/contagious diseases

- A14. Assessment of diagnostic efficiency and treatment efficacy through the use of quantitative data (e.g., number of tests, standardized test results) and qualitative data (e.g., standardized outcome measures, client/patient-reported measures)

Standard II-B: Prevention and Screening

- B4. Utilizing instrument(s) (i.e. sound-level meter, dosimeter, etc.) to determine ambient noise levels and providing strategies for reducing noise and reverberation time in educational, occupational, and other settings

Standard II-E: Audiologic Rehabilitation Across the Life Span

- E9. Defining appropriate electroacoustic characteristics of amplification fittings based on frequency-gain characteristics, maximum output sound-pressure level, and input–output characteristics

- E10. Verifying that amplification devices meet quality control and American National Standards Institute (ANSI) standards