



California State University, Sacramento  
 Department of Communication Sciences and Disorders  
 GRADUATE (Au.D.) SYLLABUS

Semester/Year: Fall/2020	Course: CSAD 613: Instrumentation in Audiology	Section: 01
Meeting Days: Tuesday/Thursday	Meeting Times: 3:00 PM-4:15 PM	Location: Zoom
Instructor: Amy White, Au.D.	Email: amy.white@csus.edu	Phone: 916-627-1494 (office)
Office Location: Zoom	Office Hours/Appointments: Tuesdays/Thursdays 4:15 PM-4:45 PM (via Zoom by appointment)	

**Catalogue Course Description:**

**Prerequisite(s):** Admission to doctorate program in audiology 3 units

**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

**Place of Course in Program:**

This course is designed to provide first-year Doctor of Audiology students with an understanding of instrumentation used in audiology, the principles of laws of physics, electronics concepts, and calibration of equipment. The focus of this course will be on principles of instrumentation relevant to clinical practice and the audiologic evaluation. Hands-on laboratory exercises will be provided for students to become familiar with audiologic equipment.

Sacramento State Graduate Learning Goals (GLG)	Addressed by this course (Y/N)
<b>Disciplinary knowledge:</b> <i>Master, integrate, and apply disciplinary knowledge and skills to current, practical, and important contexts and situations.</i>	<b>Y</b>
<b>Communication:</b> <i>Communicate key knowledge with clarity and purpose both within the discipline and in broader contexts.</i>	<b>N</b>
<b>Critical thinking/analysis:</b> <i>Demonstrate the ability to be creative, analytical, and critical thinkers.</i>	<b>Y</b>
<b>Information literacy:</b> <i>Demonstrate the ability to obtain, assess, and analyze information from a myriad of sources.</i>	<b>Y</b>

<b>Professionalism:</b> <i>Demonstrate an understanding of professional integrity.</i>	<b>Y</b>
<b>Intercultural/Global Perspectives:</b> <i>Demonstrate relevant knowledge and application of intercultural and/ or global perspectives.</i>	<b>N</b>
<b>Research:</b> <i>Conduct independent research resulting in an original contribution to knowledge in the focused areas of their graduate program</i>	<b>Y</b>

## 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.

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 613 SPECIFIC STUDENT LEARNING OUTCOMES:

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

Course Learning Outcome	Components Indicating Competence	Grades Received
1	Discussion Assignments 1, 4, & 8 Article Review Assignments 1 & 3 Exams 1, 2, & 3	
2	Discussion Assignment 8 Article Review Assignment 3 Exam 3	
3	Discussion Assignments 6, 7 & 8	

	Article Review Assignment 3 Exams 2 & 3 SLM Project	
4	Discussion Assignments 1, 6, & 8 Article Review Assignment 2 Exams 2 & 3	
5	Discussion Assignment 6 Exams 2	

## Textbooks and Materials:

Required:

Silman and Emmer (2011). *Instrumentation for audiology and hearing science: Theory and practice*. Plural Publishing.

ISBN-13: 978-1597563819

ISBN-10: 1597563811

Required (format of your choosing, i.e. spiral-bound, hardback, etc.):

American Psychological Association (2020). *Publication Manual of the American Psychological Association: 7th Edition*

ISBN-13: 978-1433832178

ISBN-10: 1433832178

## Online Resources:

CANVAS

NIOSH SLM App:

<https://www.cdc.gov/niosh/topics/noise/app.html#:~:text=The%20NIOSH%20Sound%20Level%20Meter,hearing%20health%20and%20prevention%20efforts.>

## Course Requirements/Components:

**Course Format:** Lecture (Zoom)

Unless otherwise noted by the instructor, all Fall 2020 CSAD courses are being taught synchronously. Class meetings will be scheduled by your instructor through Zoom through Canvas.

**Class Participation:** 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. Readings are required and it is expected that they will be read prior to the class in which they will be discussed.

**Class Attendance:** Classroom (Zoom) attendance is necessary for this course. No more than three unexcused absences are allowed. Students are expected to arrive on time as class begins at 3:00 PM. If a student becomes ill

and/or is placed under quarantine due to the COVID-19 pandemic, with written proof, adjustments will be made so as not to penalize the student.

**Class Assignments:** Course grades will be based on discussion board posts, article reviews, a sound level meter project, and two exams and a final exam. All written assignments will be submitted in APA format, points will be removed for formatting errors. All assignments should be submitted in Word.

**Discussion Board Posts:** Weekly discussion board posts will require a response of at least 250 words, citing material (with APA citations) as well as a meaningful response to other student's posts (see assignments in Canvas for full descriptions). A post "manager" will be assigned on a weekly basis. The responsibility of the manager is to monitor discussions, making sure to add to the thread when questions are asked and encourage participation by other students. They will be responsible for submitting unanswered questions to Dr. White for class review sessions.

**Article Reviews:** The three article reviews will be 2-3 pages each, in APA format. Students will discuss the most important aspects of the article and explore questions raised by the article, providing answers from other peer-reviewed sources. See the assignment in Canvas for a full description.

**Sound Level Meter Project:** The sound level meter project will require the use of the NIOSH sound level meter app for a smartphone. Measurements will be taken using multiple scales in a variety of environments. Students will write a paper of their findings, explaining differences in measurements, etc. Students will present their findings at the end of the semester. See the assignment in Canvas for a full description.

**Exams:** The two exams will be equally weighted with a mix of multiple choice, fill-in-the-blank, short answer, and essay questions. The final exam will be cumulative.

### Exams:

**Exam absences:** No make-up examinations will be given unless there is a documented emergency for which you have written proof, that occurred the day of the exam. Any approved make-up exams will be scheduled for the end of the semester (during finals week) and may be administered in a different format from the original exam. Any missed assignments due to the documented emergency will be due the day the student is able to return to class.

**Exam Procedures:** Exams will take place for the duration of the normal class period and will be conducted via Zoom/Canvas and Lockdown Browser. Exams will be accessed through Canvas. Students will be asked to have their webcam enabled so that they may be monitored for the duration of the exam.

### Grading Policy:

Note: If a student becomes ill and/or is placed under quarantine due to the COVID-19 pandemic, with written proof, adjustments will be made so as not to penalize the student.

Source	Points	% of Grade
Discussion Assignments/Discussion Manager (10 points x 9)	90	15%
Article Reviews (35 points x 3)	105	17.5%

Sound Level Meter Project	105	17.5%
Exams (100 points x 3)	300	50%
<b>Total Course Points Available</b>	600	

Letter grades are assigned according to the following scores:

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%

## Course Policies/Procedures:

### 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 of the Au.D. Student Handbook).
- **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.

Health & Safety Information: 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>. If a student becomes ill and/or is placed under quarantine due to the COVID-19 pandemic, with written proof, adjustments will be made so as not to penalize the student.

## **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.

## TENTATIVE Course Schedule/Outline:

Date	Topic/Class Content	Readings	Assignment/Activities	Notes
9/1	Welcome, class format overview			Will assign discussion “managers”
9/3	Physics and Sound Energy	Silman & Emmer (2012) - CH 1	Physics Problem Discussion	Manager: TBD
9/8	Mechanical Immittance	Silman & Emmer (2012) – CH 2	Continue Discussion Assignment	
9/10	Sound Booths and Sound Field	Margolis, R.H., & Madsen, B. (2015). The acoustic test environment for hearing testing. <i>Journal of the American Academy of Audiology</i> , 26, 1-8.  IAC Data Sheet (Canvas)	Sound Booth Discussion Assignment	Manager: TBD
9/15	Conference Review/Sound Field set-up	British Society of Audiology. (2019, March). <i>Practice guidance: The acoustics of sound field audiometry in clinical audiological applications</i> . <a href="https://www.thebsa.org.uk/wp-content/uploads/2019/04/OD104-79-Acoustics-of-Sound-Field-Audiometry-in-Clinical-Audiological-Applications-FINAL-Feb-2019.pdf">https://www.thebsa.org.uk/wp-content/uploads/2019/04/OD104-79-Acoustics-of-Sound-Field-Audiometry-in-Clinical-Audiological-Applications-FINAL-Feb-2019.pdf</a> <b>*only through section 3.4.2</b>	Continue Discussion Assignment	
9/17	Introduction to Test Equipment	Silman & Emmer (2012) – CH 9		
9/22	Guest: Joe Dansie, Au.D.	Fabricating/inventing VRA systems		
9/24	Electricity (DC)	Silman & Emmer (2012) – CH 3	Electricity Discussion Assignment	Manager: TBD
9/29	Electricity (AC)	Silman & Emmer (2012) – CH 4	Continue Discussion Assignment <b>Article 1 Review Assignment DUE</b>	
10/1	Review unanswered discussion questions/Review for Exam			
10/6	<b>EXAM 1</b>			
10/8	Analog Filtering/Electrical Impedance	Silman & Emmer (2012) – CH 5	Filtering/DSP Discussion Assignment	Manager: TBD
10/13	Digital Filtering/Signal Processing	Silman & Emmer (2012) – CH 8	Continue Filtering/DSP Discussion Assignment	
10/15	More Signal Processing	Rosowski, J. J., & Wilson, L.A. (2015). Acoustic immittance, absorbance, and reflectance I the human ear canal. <i>Seminars in</i>	Acoustic Immittance Discussion Assignment	Manager: TBD

		<i>Hearing</i> , 36(1), 11-28. <b>*only up to “calibration methods” section</b>		
10/20	Acoustic Immittance	Silman & Emmer (2012) – CH 7	Continue Acoustic Immittance Discussion Assignment	
10/22	Equipment Components		Equipment/Microphones Discussion Assignment	
10/27	Microphones	Silman & Emmer (2012) – CH 6	Continue Equipment/Microphones Discussion Assignment	
10/29	Wireless Technology and Equipment Troubleshooting		<b>Article 2 Review Assignment DUE</b>	
11/3	Review unanswered discussion questions/Review for Exam			
11/5	<b>EXAM 2</b>			
11/10	Sound Level Meters/Biologic Calibration	Silman & Emmer (2012) – CH 10  Serpanos, Y.C., Renne, B., Schoepflin, J.R., & Davis, D. (2018). The accuracy of smartphone sound level meter applications with and without calibration. <i>American Journal of Speech-Language Pathology</i> , 27, 1319-1328.	Sound Level Meter/Biologic Calibration Discussion Assignment	Manager: TBD
11/12	Audiometric Presentation: Calibration		Continue Sound Level Meter/Biologic Calibration Discussion Assignment	
11/17	Calibration Standards	Rosowski (2015) <b>*only from “calibration methods” section to end</b>  BSA (2019) <b>*only section 3.4.3 to end</b>  Cornelisse, L.E., & Moroso, M.J. (1990). Test conditions, stimuli, and calibration values for sound field testing. <i>Journal of Speech-Language Pathology and Audiology</i> , 14(1), 21-28.  Margolis, R.H., & Stiepan, S.M. (2012). Acoustic method for calibration of audiometric bone vibrators. <i>Journal of the Acoustical Society of America</i> , 131(2), 1221-1225.	Calibration Standards/Room Acoustics Discussion Assignment	Manager: TBD



		Champlin, C.A., & Letowski, T. (2014). Audiometric calibration: Air conduction. <i>Seminars in Hearing, 35</i> (4), 312-328.		
11/19	Room Acoustics and Speech Perception	<p>Yang, W., &amp; Bradley, J.S. (2009). Effects of room acoustics on the intelligibility of speech in classrooms for young children. <i>Journal of the Acoustical Society of America, 125</i>(2), 922-933.</p> <p>Halling, D.C., &amp; Humes, L.E. (2000). Factors affecting the recognition of reverberant speech by elderly listeners. <i>Journal of Speech, Language, and Hearing Research, 43</i>(2), 414-431.</p> <p>Dyre, L. (2016). Educational solutions for children with listening challenges. Retrieved from <a href="https://www.audiologyonline.com/articles/classroom-solutions-and-modifications-for-17364">https://www.audiologyonline.com/articles/classroom-solutions-and-modifications-for-17364</a></p>	Continue Calibration Standards/Room Acoustics Discussion Assignment	
11/24	Couplers/Electroacoustic Analysis		<b>Article 3 Review Assignment DUE</b>	
12/1	Review unanswered discussion questions/Review for Exam			
12/3	<b>SLM Project presentations</b>			
12/8	<b>SLM Project presentations</b>			
12/10	Catch-up/Course Review/Q&A			
12/15	<b>FINAL EXAM</b>			

## Online Learning

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

### 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:

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 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](mailto:cares@csus.edu) to speak with a case manager about the resources available to you. Check out the [CARES website](#).

## 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](mailto: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

## CSAD 613 Instrumentation 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