



# California State University, Sacramento

## Department of Communication Sciences and Disorders

### GRADUATE (Au.D.) SYLLABUS

Semester/Year: Fall 2023	Course: CSAD 641L: Auditory evoked potentials lab	Section: 01
Meeting Days: Wednesdays	Meeting Times: 10.30 am - 11:45 pm	Location: Folsom 2204
Instructor: Soumya Venkitakrishnan, Au.D., Ph.D.	Email: <a href="mailto:s.venkitakrishnan@csus.edu">s.venkitakrishnan@csus.edu</a>	Phone: 916-78-4899
Office Location: 2404G, Folsom Hall	Office Hours/Appointments: Mondays: 9.00 -10.30 am, Wednesdays: 8.30 to 10.00 am	

#### Catalogue Course Description:

**Prerequisite(s):** Admission to Doctor of Audiology program; CSAD 611, CSAD 612, CSAD 613, CSAD 614, CSAD 621, CSAD 622, CSAD 622L, CSAD 623, CSAD 624, CSAD 631, CSAD 632

**Corequisite(s):** CSAD 641

**Term typically offered:** Fall only

#### Place of Course in Program

CSAD 641L: Lab component includes administration and reporting of physiological assessments presented in

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>	Y
<b>Communication:</b> <i>Communicate key knowledge with clarity and purpose both within the discipline and in broader contexts.</i>	N
<b>Critical thinking/analysis:</b> <i>Demonstrate the ability to be creative, analytical, and critical thinkers.</i>	Y
<b>Information literacy:</b> <i>Demonstrate the ability to obtain, assess, and analyze information from a myriad of sources.</i>	Y
<b>Professionalism:</b> <i>Demonstrate an understanding of professional integrity.</i>	Y
<b>Intercultural/Global Perspectives:</b> <i>Demonstrate relevant knowledge and application of intercultural and/or global perspectives.</i>	N
<b>Research:</b> <i>Conduct independent research resulting in an original contribution to knowledge in the focused areas of their graduate program</i>	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.

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 641L SPECIFIC STUDENT LEARNING OUTCOMES:**

1. Identify the major components of instrumentation used in electrophysiological measures.
2. Administer electrophysiological measures (EcochG, ABR, ASSR).
3. Interpret electrophysiological measures (EcochG, ABR, ASSR) to estimate hearing thresholds or to diagnose disorders of the auditory system.
4. Discuss the use of intraoperative monitoring within the audiologist's scope of practice.

Course Learning Outcome	Components Indicating Competence	Grades Received
1-3	EcochG Lab & Report	
1-3	ABR Lab & Report	
1-3	TB ABR Lab and Report	
1-3	Neurodiagnostic ABR Lab & Report	
3	Case studies assignment	
1-3	ASSR Lab & Report	
4	IOM Paper	

### Textbooks and Materials:

Atcherson, S. R., & Stoody, T. M. (2012). *Auditory Electrophysiology*. Thieme. (placed on reserve in the library)

### Online Resources:

<https://csus.instructure.com/courses/84469>

## Course Requirements/Components:

### 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. Check the Canvas site regularly to ensure no readings are missed.

### Class Participation:

Students are expected to actively participate in class discussions and are required to have read the assigned material prior to class meetings. See more details of participation in assignments below.

### Class Attendance:

Classroom attendance is necessary for this course. Students are expected to arrive on time as class begins. Students **must** email the instructor if they are not able to attend the class and are responsible to learn the material that was covered during their absence. Greater than **two absences or tardiness instances** will cause the initiation of an academic performance improvement plan (APIP).

Student travel policy: <https://www.csus.edu/college/health-human-services/communication-sciences-disorders/internal/documents/policy/csad-student-travel-policy.pdf>

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. 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>

Students must adhere to COVID-19 policies regarding mask wearing and vaccinations as described on the CSUS website. Please see <https://www.csus.edu/compliance/risk-management/coronavirus.html> and <https://www.csus.edu/return-to-campus/return-to-campus-faq.html> for more information and updates.

### **Class assignments:**

Lab assignments: These assignments include conducting testing in the lab. The instructor will provide instruction during class time regarding the procedures. The student must then complete the assignments on the assigned number of subjects for practice. The lab assignment may also include case scenario-based questions.

IOM paper: Following the class on IOM, the students will be asked to write a paper on this topic. They will use articles, and the textbook readings to create a cohesive paper. Detailed instructions will be provided on Canvas.

Case studies assignment: The students will be given case studies, and they will interpret results/ write a report for the cases provided. Detailed instructions will be provided on Canvas.

Attendance and professionalism: Classroom participation includes asking/ answering questions and engaging in discussion during case presentation and other discussions throughout the semester. Professionalism will include timely arrival in class, timely and professional response to emails (within 48 hours), engaging in the class, timely submission of assignments, no mobile phone use in the class except for emergencies, use of professional language in class, professional behavior, etc. Wellness activity contains completing assigned wellness tasks. The student will complete these tasks for the month of September, October, and November. This is an extra-credit activity, and students are not required to do this. This activity is meant to improve students' wellness.

### **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. Writing, analytical, and critical thinking skills are part of the learning outcomes of this course, and so, all assignments should be prepared by the student. AI-generated submissions are not permitted and will be treated as plagiarism and will be reported to the office of student conduct.

**Late work/ regrading:**

All assignments must be submitted by the scheduled deadline. In the case that life events or other reasons prevent the student from submitting the assignment on time, contact the instructor to request for an extension. This request should be made one week in advance, or as early as possible. This extension will not be provided more than twice during the semester and will not be provided for the final assignment. Late submission will result in reduction in 10% points per day of delay in submission. Grades will not be changed under any circumstances to elevate a grade level (e.g. B to B+) and no emails regarding the same will be entertained.

**Grading Policy:**

Source	% of Grade
Neurodiagnostic ABR Lab & Report (4 participants- both ears)	15 %
Click ABR Lab & Report (2 participants- both ears)	15 %
TB ABR Report (2 participants- both ears)	15 %
ASSR Lab & Report (2*50) (2 participants – both ears)	15 %
IOM Paper	10 %
ECochG Lab & Report (1 ear)	10 %
Case studies assignment	15 %
Attendance and professionalism	5%
Wellness activities (Extra credit)	5%

Letter grades are assigned according to the following scores:

Letter	%
A	93-100%
A-	90-92.99%
B+	87-89.99%
<b>B</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).
- **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 of 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.

## TENTATIVE Course Schedule/Outline:

Date	Labs	Readings	Assignments due
08/30	Syllabus, assignments, Pre-Appointment Considerations, Case History, Patient Preparation, Providing Instructions	Chapter 20	
09/06	Orientation to equipment- hardware and, software.	Basic instrumentation, and acquisition and recording parameters: Chapter 2	
09/13	Orientation to equipment, hardware and software Neurodiagnostic Auditory Brainstem Response	Basic instrumentation, and acquisition and recording parameters: Chapter 2 Auditory Brainstem Response: Chapter 1, 6	
09/20	Neurodiagnostic Auditory Brainstem Response	Auditory Brainstem Response: Chapter 1, 6	
09/27	Neurodiagnostic Auditory Brainstem Response	Auditory Brainstem Response: Chapter 1, 6	Neurodiagnostic ABR- due: 10/03
10/04	Threshold ABR- Clicks	Threshold ABR- Chapter 14	
10/11	Threshold ABR- Clicks	Stimulation Calibration and Generation- Chapter 2, 22	
10/18	Tone-burst ABR	Threshold ABR- Chapter 14	Click ABR- due: 10/17
10/25	Tone-burst ABR	Analysis and Interpretation- Chapter 3	
11/01	Tone Burst ABR	Gorga, M. P., Kaminski, J. R., Beauchaine, K. A., & Jesteadt, W. (1988). Auditory brainstem responses to tone bursts in normally hearing subjects. <i>Journal of Speech, Language, and Hearing Research</i> , 31(1), 87-97.	
11/08	ASSR lab	Johnson, T. A., & Brown, C. J. (2005). Threshold prediction using the auditory steady-state response and the tone burst auditory brain stem response: a within-subject comparison. <i>Ear and hearing</i> , 26(6), 559-576. Chapter 18 Auditory Steady State Response : Chapter 8, 15	TB ABR lab- due: 10/31
11/15	ASSR lab	ASHA conference	
11/22	Work on case studies assignment		ASSR lab due: 11/21
11/29	IOM- Guest lecture	Stankovic, P., Wittlinger, J., Georgiew, R. <i>et al.</i> Continuous intraoperative neuromonitoring (cIONM) in head and neck surgery—a review. <i>HNO</i> 68, 86–92 (2020). <a href="https://doi.org/10.1007/s00106-020-00824-1">https://doi.org/10.1007/s00106-020-00824-1</a> Gonzalez, A. A., Jeyanandarajan, D., Hansen, C., Zada, G., & Hsieh, P. C. (2009). Intraoperative neurophysiological monitoring during spine surgery: a review.	

		<i>Neurosurgical Focus</i> , 27(4), E6. <a href="https://doi.org/10.3171/2009.8.focus09150">https://doi.org/10.3171/2009.8.focus09150</a>	
12/06	Electrocochleography lab	Electrocochleography: Chapter 5, 12	IOM paper due, electrocochleography lab due. Case studies assignment due: 12/07

## 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 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: <https://www.csus.edu/umannual/student/stu-100.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](#).

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 needs 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. Information for students regarding drop and withdrawal from classes is provided here:

<https://www.csus.edu/academic-affairs/internal/internal/documents/drop-and-withdrawal-policy.pdf>

### 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 Disability Access Center (DAC), 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 DAC and meet with a DAC counselor to request special accommodation before classes start. Sacramento State Disability Access Center 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, DAC provides consultation and serves as the information resource on disability related issues to the campus community. DAC 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 [dac@csus.edu](mailto:dac@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](#).

### 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/umannual/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](mailto:stark@csus.edu)
- Services to Students with Disabilities: 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 Disability Access Center (DAC), 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 DAC and meet with a DAC counselor to request special accommodation before classes start. Sacramento State Disability Access Center 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, DAC provides consultation and serves as the information resource on disability related issues to the campus community. DAC 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 [dac@csus.edu](mailto:dac@csus.edu)
- 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](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

- Basic science skills (e.g., scientific methods, critical thinking)
- 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
- A7. Applications and limitations of specific audiologic assessments and interventions in the context of overall client/patient management

## Standard II-C: Audiologic Evaluation

- C4. Identifying, describing, and differentiating among disorders of the peripheral and central auditory systems and the vestibular system
- C11. Selecting, performing, and interpreting physiologic and electrophysiologic test procedures, including electrocochleography, auditory brainstem response with frequency-specific air and bone conduction threshold testing, and click stimuli for neural diagnostic purposes
- C16. Electrophysiologic testing, including but not limited to auditory steady-state response, auditory middle latency response, auditory late (long latency) response, and cognitive potentials (e.g., P300 response, mismatch negativity response)

# Accreditation Commission for Audiology Education (ACAE) Competencies

## **Foundations**

F3: Explain theoretical and applied principles of acoustics, psychoacoustics, non-acoustic stimuli, and electronics as applied to the normal and disordered auditory and vestibular systems.

## **Diagnosis and Management**

D1: Diagnose, triage, treat and manage auditory and vestibular/balance conditions and diseases for patients over the lifespan, including newborns, infants, children, adolescents, adults, elderly and special needs individuals.

D3: Apply critical thinking skills to assess the patient's auditory and vestibular status.

D4: Prescribe, perform and interpret clinical, laboratory and other diagnostic procedures and tests in consultation with other health professionals as may be required for proper management of the patient.

D5: Interpret and synthesize the findings from the patient's history, examination and other diagnostic tests and procedures in order to identify the etiology, the pathogenesis of the condition, and the diagnosis