



California State University, Sacramento

Department of Communication Sciences and Disorders

GRADUATE SYLLABUS & COURSE OUTLINE

Class Information:		
Semester/Year: Summer 2022	Course: CSAD 662: Implantable Devices and Technology	Section: 01
Meeting Days: Wednesdays	Meeting Times: 9:00-11:20 AM	Location: Folsom Hall, CSAD 2204
Instructor: Allen Lue, MD Rachel Bellotti, AuD	Email: Allen.J.Lue@csus.edu (pending) Rachel.A.Bellotti@csus.edu	Phone: (916) 278-4697
Office Location: TBD	Office Hours/Appointments: TBD	

Catalog Course Description:

CSAD 662. Implantable Devices and Technology. 2 Units

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](#), [CSAD 641](#), [CSAD 641L](#), [CSAD 642](#), [CSAD 643](#), [CSAD 651](#), [CSAD 652](#), [CSAD 653](#)

Term Typically Offered: Summer only

Pre-operative assessment and post-operative management of cochlear implants and other implantable devices. Includes patient counseling for expectations, introduction to surgical procedures, mapping, use of assistive devices, and current developments in research.

Place of Course in Program:

This course is generally taken by students in the summer semester of the second year of the graduate program.

UNIVERSITY LEARNING GOALS

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

GRADUATE LEARNER OUTCOMES

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.

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

1. Outline the historical developments in implantable technology for hearing impairment
2. Describe candidacy requirements for a cochlear implant in pediatric and adult populations, including federal regulations, contraindications, and audiologic and medical assessments
3. List the major components of a cochlear implant, bone-anchored hearing aid, and middle-ear implant
4. List the professionals typically involved in pediatric and adult cochlear implant teams
5. Compare and contrast the three major cochlear implant manufacturers, including programming, electrodes, electrode arrays, dimensions, depth of implantation, casing, magnets, sound processors, dynamic range, user controls, accessories, and battery life
6. Describe verification and validation procedures for implantable devices
7. Outline mapping procedures for cochlear implants
8. Summarize surgical procedures for cochlear implants, bone-anchored hearing aids, middle-ear implants, and auditory brainstem implants

ELO	Component Indicating Competency	Grade(s) Received
1	Quiz 1, midterm, final	
2	Quiz 2, midterm, final	
3	Quiz 3, midterm, final	
4	Quiz 4, midterm, final	
5	Quiz 5, final	
6	Quiz 6, final	
7	Quiz 7, final	
8	Quiz 8, final	

Textbooks and Materials:

Ruckenstein, M.J. (2012). *Cochlear implants and other implantable hearing devices*. Plural Publishing.

Wolfe, J., & Schafer, E. (2014). *Programming cochlear implants* (2nd ed.). Plural Publishing.

American Psychological Association. (2020). *Publication manual of the American Psychological Association* (7th ed.). <https://doi.org/10.1037/0000165-000>

Don't buy the textbooks unless you would like them for your library. Relevant excerpts will be provided on Canvas.

Course Policies/Procedures:

1. **Attendance:** Professional attendance is expected for class meetings. Students are encouraged to attend all scheduled class meetings and to take advantage of every opportunity for learning within the context of the class. Your grade will not be reduced if you are sick and unable to attend synchronous lectures. Documentation of the absence may be required.
2. **Students are responsible for all materials covered in their absence.** Materials for this course will be posted on Canvas. Students are responsible for accessing and locating materials and downloading appropriate resources to learn the material for this class. Internet access is required. As within a given week, course materials may be completed at the students' leisure.
3. **Class meetings, participation:** It is expected that students will complete all readings prior to class. Teaching strategies will include lectures and in-class assignments composed of clinical simulation. Active listening, critical thinking, and discussion are expected in this course.
4. **Technology use:** It is a course expectation that students will participate fully in class discussion and give classmates and discussion full and undivided attention. Please silence your cell phone to avoid distractions during class time.
5. **Recording:** To facilitate students' learning (practice in note-taking) and out of respect for fellow classmates (to allow all students to feel comfortable actively participating in class discussion), students are not permitted to audio or video record lectures. If students require accommodation and additional support in note-taking, a referral will be made to SSWD <https://www.csus.edu/student-affairs/centers-programs/testing-center/service-accommodations.html>.
6. **Quizzes:** A 10 point quiz will be released at the beginning of each lecture. These quizzes will be completed on Canvas and will be due before the start of the next class including days of the midterm or final.
7. **Exams:** Examinations will be in person and must be completed during the scheduled timeframe. There will be two exams. Examinations will be based on class lectures, class activities, and discussions. Exams may be composed of multiple choice, true/false, matching and/or short answer questions. Make-up exams will be scheduled during dead week. Students who fail to complete one or more of the exams by the last day of the final exam period may receive a "0" on their exam(s) as per instructor discretion.

Online Quizzes via Canvas: Quizzes are to be completed **independently**, though students may utilize their individual notes and texts. It is expected that students will maintain all aspects of academic integrity.

8. **Study Guides:** Relevant materials will be included in each lecture.
9. **Course Evaluations:** At the completion of the course, each student is expected to comment on the nature of this course. This procedure allows the instructor to modify segments of the course in order to make it more applicable to

future students' educational and professional growth. Students are encouraged to use this modality as a direct and appropriate means of voicing concerns. Your voice matters.

- 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. 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>

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.

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.

Grading Policy:

Students will have the opportunity to earn points towards their grade through assignments, exams and class participation.

Table 4: Course Requirements and Grade Distribution

Source	Points	% of Grade
Quizzes (Learning outcomes 1-8)	10 quizzes x 20 points = 200 points	50%
Midterm (Learning outcomes 1-4)	80 points	20%
Final (Learning outcomes 1-8)	120 points	30%
Total	400	100%

Letter grades are assigned according to the following scores:

Table 5: Points, Percentages and Letter Grades

Points	%	Letter
368-400	92-100	A
360-367	90-91	A-
348-359	87-89	B+
332-347	83-86	B
320-331	80-82	B-
308-319	77-79	C+
292-307	73-76	C
280-291	70-72	C-
268-279	67-69	D+
256-267	64-66	D
240-255	60-63	D-
<240	<60	F

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

Au.D. Program Policies

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 the classroom. 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.

Date	Prerequisite Reading	Class Topic	Learning Objective
6/1		Etiologies of hearing loss that may be treatable with otologic implantable devices. History of otologic implantable devices including middle ear, Baha, CI. Basic overview of CI Guest Speaker	1 Quiz
6/8		Overview of otologic implantable devices. Middle ear implantables. Surgical procedures. ABI	3, 8 Quiz
6/15	Ruckenstein Ch 20	Baha overview, candidacy, evaluation, programming, verification.	3 Quiz
6/22		Introduction to CI, candidacy, federal regulations CI center/team requirements Contraindications/red flags Realistic expectations	2, 3, 4 Quiz
6/29	Ruckenstein ch.5	CI evaluation for pediatrics and adults Surgical considerations Internal device selection Surgical complications	2 Quiz
7/6		Midterm	Exam
7/13	Wolfe ch 2,3,7,8	CI programming for pediatrics and adults, basic troubleshooting, outcomes, verification testing, aural rehabilitation	6 Quiz
7/20	Wolfe ch 5	Cochlear Americas Bimodal CI candidacy and programming Guest speaker	5, 7 Quiz
7/27	Wolfe ch 4,9	Advanced Bionics Pediatric programming, wearing options, ALD Guest speaker	5, 7 Quiz
8/3	Wolfe ch 6	Med-El Single-sided deafness CI candidacy, assessment, considerations Guest speaker	5, 7 Quiz
8/10	Wolfe ch 10	Hybrid/EAS candidacy, evaluation, programming, considerations, verification testing	2 Quiz
8/17		Final	Exam

Online Learning

For additional information, please review the CSAD Handbooks website:

<https://www.csus.edu/college/health-human-services/communication-sciences-disorders/csad-handbooks.html>

Zoom/ Online Instruction privacy and relevant rights and responsibilities:

- Online makeup instruction, if necessary, will be determined on a case by case basis.

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](#).

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.

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 (including pregnancy-related disabilities), 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. Please be advised that disability-related academic adjustments are not retroactive. SSWD is located on the first floor of Lassen Hall 1008. Phone is 916-278-6955 and e-mail is sswd@csus.edu. For a complete listing of services and current business hours visit <https://www.csus.edu/student-affairs/centers-programs/services-students-disabilities/>

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.

Sac State is committed to supporting students and fostering a campus environment free of sexual misconduct and gender-based discrimination. If a student chooses to disclose to a faculty or staff member an experience related to sexual misconduct which includes rape, relationship violence, or stalking, all faculty and staff are obligated to report this disclosure to the university's Title IX Coordinator. Sac State's Title IX Coordinator is Mary Lee Vance. Please email equalopportunity@csus.edu or (916) 278-5770. Upon receipt of the report, the Title IX Coordinator will contact you to inform you of your rights and options as a survivor and connect you with support resources, including resolution options for holding accountable the person who harmed you. Students who elect not to discuss their experience with the Title IX Coordinator can speak confidentially to the following confidential resources:

Student Health & Counseling Services at The WELL On Campus

Phone Number: 916-278-6461

Website: www.csus.edu/shcs

Campus Confidential Advocate – Laura Swartzen

Email: weave@csus.edu

On Campus Phone Number: 916-278-5850 (during business hours)

WEAVE 24/7 Hotline: 916-920-2952

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
- Services to Students with Disabilities: <https://www.csus.edu/student-affairs/centers-programs/services-students-disabilities/>
- Student Health and Counseling Services: Your physical and mental health are important to your success as a college student. Student Health and Counseling Services (SHCS) in The WELL offers medical, counseling, and wellness services to help you get and stay healthy during your time at Sac State. SHCS offers: Primary Care medical services, including sexual and reproductive healthcare, transgender care, and immunizations; urgent care for acute illness, injuries, and urgent counseling needs; pharmacy for prescriptions and over-the-counter products; mental health counseling, including individual sessions, group counseling, support groups, mindfulness training, and peer counseling; athletic training for sports injury rehabilitation; wellness services, including nutrition counseling, peer led health education and wellness workshops, and free safer sex supplies; violence and sexual assault support services. Most services are covered by the Health Services fee and available at no additional cost.
- 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): 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. <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>

Include the CALIPSO KASAs from Canvas here. Look for 662, and then paste the text so that it is on the final page of the syllabus.