

Last name of instructor (Semester Year)

California State University, Sacramento

AMPLIFICATION II

CSAD631 - 3 units

Summer 2020 (AUD-1)

COURSE FACULTY

Course Instructor:

Folsom Hall office #:

Office Phone:

Office Hours:

E-mail address:

REQUIRED CLASS MEETINGS TIMES

Days and times:

Building: Folsom Room #:

REQUIRED TEXTS

Dillon, H. (2012). *Hearing aids*. Thieme.

OPTIONAL TEXTS

COURSE WEBSITE

<https://sacct.csus.edu>

SacCT will be used as the learning management site for dissemination of course readings, handouts, slides, assignments, announcements, and tests/quizzes. The course faculty will have materials posted to SacCT at least 48 hours before class.

Instructor Communication and Response Time

Faculty strive to have open communication with students both within and outside of the classroom. Students are encouraged to contact faculty to discuss questions about the course. Responses to telephone or e-mail messages will usually be transmitted within 48 hours during regular working hours. If you do not have a response within this time period, please check your contact methods and resend the message. Faculty will generally respond to student questions received during evenings and weekends once they are back in the office during regular business hours.

***Please be aware that all content for this course is the property of the course faculty who have created it and can only be used for this course. Those wishing to use the materials outside of this course must receive written permission from the author/creator.**

GENERAL COURSE INFORMATION

PRE-REQUISITES

Admission to Doctor of Audiology program; CSAD611, CSAD612, CSAD613, CSAD614, CSAD621, CSAD622, CSAD622L, CSAD623, CSAD624

COURSE DESCRIPTION

Overview

Last name of instructor (Semester Year)

This course is designed to provide first-year Doctor of Audiology students with a deeper understanding and exploration of the concepts introduced in CSAD622: Amplification I, as well as more advanced topics in amplification and hearing assistive technology.

Approved Course Description (from CSUS Course Catalog)

Advanced study of digital amplification systems, including hearing aids and assistive listening devices. Practical approaches to the fitting of devices are discussed.

WHY IS THIS COURSE IMPORTANT?

The topics presented in CSAD Amplification I will be presented in greater detail and accompanied by additional practice. Amplification is part of the rehabilitative process, so understanding patient needs, addressing concerns, and troubleshooting devices is necessary for clinical practice.

UNIVERSITY LEARNING GOALS

	1 Disciplinary knowledge	2 Communication	3 Critical thinking/analysis	4 Information literacy	5 Professionalism	6 Intercultural/global perspectives	7 Research
Addressed by this course	X		X	X	X		X

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.

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. Describe candidacy and communication needs for patients with hearing loss
2. Obtain MCL and UCL using clinical procedures
3. Compare hearing aid manufacturers, hearing aid styles, and electronic/acoustic features
4. State the steps in the decision-making process for audiologists and patients selecting amplification
5. Explain physical characteristics of hearing aids that can be modified for patients based on patient needs and common complaints
6. Identify hearing aid styles, features, and characteristics based on a clinical case report
7. Troubleshoot hearing aid problems (earmold, devices, electroacoustic analyses) based on a clinical case report

Graduate Learner Outcome	Component Indicating Competence	Grade(s) Received
1-7	Exam (100%)	
2	MCL/UCL Lab (100%)	
3	Hearing aid manufacturer lab (100%)	
3	Hearing aid comparison activity (100%)	
1,4-6	Mock patient study (100%)	

Last name of instructor (Semester Year)

5	Electroacoustic analysis (100%)	
7	Troubleshooting solutions project (100%)	

COURSE/CLASS POLICIES

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:

Classroom 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 X:XX am/pm.

Class Assignments

Course grades will be based on a hearing aid manufacturer project, one lab, hearing aid comparison activity, mock patient study, an electroacoustic analysis, troubleshooting solutions project, two exams, and one final exam.

Hearing Aid Manufacturer Project

Students will compile information about major hearing aid manufacturers and the device options (noise reduction, program options, etc.)

UCL/MCL Lab

Students will work in pairs to obtain UCL and MCL for each other using the procedures presented in class.

Hearing Aid Comparison Activity

Students will fill in a table comparing five types of hearing aids. Students will then select the best hearing aid for a given case study and describe plans for verification and validation.

Mock Patient Study

Students will perform all steps of the hearing aid fitting process with a mock patient.

Electroacoustic Analysis Activity

Students will complete an electroacoustic analysis for three different types of hearing aids, including comparison to ANSI standards.

Troubleshooting Solutions Project

Students will be given scenarios based on common patient complaints and will report two solutions for each case.

Exams

- **Exam absences:** No make-up examinations will be given unless there is a documented emergency for which you have written proof. Any approved make-up exams will be scheduled at the end of the semester (during finals week) and may be administered in a different format from the original exam.

Last name of instructor (Semester Year)

- **Exam procedures:**

Test arrival/start

Test duration and completion

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/AcademicHonestyPolicyandProcedures.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 affairs.

Understand When You May Drop This Course

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

Accommodations

Inform your instructor of any accommodations needed. 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. SSWD is located in Lassen Hall 1008 and can be contacted by phone at [\(916\) 278-6955](tel:9162786955) (Voice) or [\(916\) 278-7239](tel:9162787239) (TDD only) or via email at sswd@csus.edu

Course Requirement Grading

<u>Activity</u>	<u>Points Available</u>
Hearing aid manufacturer project	100
UCL and MCL lab	50
Hearing aid comparison activity	100

Last name of instructor (Semester Year)

Mock patient study	150
Electroacoustic analysis	150
Troubleshooting solutions	100
Exam 1	200
Exam 2	200
Final exam (date and material covered)	300
TOTAL COURSE POINTS AVAILABLE	1350

Overall Percentage Needed

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

Grade	Percentage
A	93-100%
A-	90-92%
B+	87-89%
B	83-86%
B-	80-82%
C+	77-79%
C	73-76%
C-	70-72%
D+	67-69%
D	63-66%
D-	60-62%
F	< 60%

COURSE SCHEDULE OF LECTURE TOPICS AND EXAMS

Date	Topic and Activity or Quiz and Exam	Readings/ Assignment
5/30	Introduction to course Hearing impairment and amplification	
6/4	Candidacy for hearing aids	Northern, J.L. (2011). Strategies of adult hearing aid selection. <i>Audiology Research</i> , 1(1), e20. Kitterick, P.T., Smith, S.N., & Lucas, L. (2016). Hearing instruments for unilateral severe-to-profound sensorineural hearing loss in adults: A systematic review and meta-analysis. <i>Ear and Hearing</i> , 37(5), 495-507.
6/6	Benefits and limitations of hearing aids	Boymans, M., Goverts, S.T., Kramer, S.E., Festen, J.M., & Dreschler, W.A. (2009). Candidacy for

Last name of instructor (Semester Year)

		bilateral hearing aids: A retrospective multicenter study. <i>Journal of Speech, Language, and Hearing Research</i> , 52(1), 130-140.
6/6	Dynamic range	
6/11	Speech understanding MCL and UCL testing	Punch, J., Rakerd, B., & Joseph, A. (2004). Effects of test order on most comfortable and uncomfortable loudness levels for speech. <i>American Journal of Audiology</i> , 13(2), 158-163.
6/13	Real ear and coupler measurements	Dillon- Ch. 4
6/18	RECD	Dillon- Ch. 4
6/20	Review for Exam 1	
6/25	Exam 1	
6/27	Cerumen management Infection control	Schwartz et al. (2017). Clinical practice guideline (update): Earwax (cerumen impaction). <i>Otolaryngology Head & Neck Surgery</i> , 156(1 Suppl), S1-S29. American Academy of Audiology Infection Control Task Force. (2003). <i>Infection Control in Audiological Practice</i> .
7/2	Hearing aid manufacturers	
7/4	No class- Fourth of July	
7/9	Review for Exam 2	
7/11	Exam 2	
7/16	Hearing aid manufacturers	
7/18	Patient considerations	Dillon- Ch. 13-14
7/23	Earmold style and material	Dillon- Ch. 13
7/25	Venting and earmold length	Dillon- Ch. 5 Kuk, F., Keenan, D., & Lau, C.C. (2009). Comparison of vent effects between a solid earmold and a hollow earmold. <i>Journal of the American Academy of Audiology</i> , 20(8), 480-491. Winkler, A., Latzel, M., & Holube, I. (2016). Open versus closed hearing-aid fittings: A literature review of both fitting approaches.

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Last name of instructor (Semester Year)

		<i>Trends in Hearing, 20.</i>
7/30	Venting	
8/1	Receiver types	Dillon- Ch. 11
8/6	Noise reduction, multiple memories, frequency transposition	Bentler, R., Walker, E., McCreery, R., Arenas, R.M., & Roush, P. (2014). Nonlinear frequency compression in hearing aids: Impact on speech and language development. <i>Ear and Hearing, 35(4)</i> , e143-e152.
8/8	Fine-tuning and verification Batteries Troubleshooting	Dillon- Ch. 12 Penteado, S.P., & Bento, R.F. (2013). Performance analysis of ten brands of batteries for hearing aids. <i>International Archives of Otorhinolaryngology, 17(3)</i> , 291-304.
8/13	Hearing aid use and aural rehabilitation	Barker, F., Mackenzie, E., Elliott, L., Jones, S., & de Lusignan, S. (2014). Interventions to improve hearing aid use in adult auditory rehabilitation. <i>Cochrane Database Systematic Reviews, 7.</i>
8/15	Review for final exam	
8/19	Final exam	

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