

Last name of instructor (Semester Year)

California State University, Sacramento

AGING AND THE AUDITORY SYSTEM

CSAD682 - 2 units

Spring 2022 (AUD-3)

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

Weinstein, B. (2013). *Geriatric audiology*. 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, CSAD631, CSAD632, CSAD641, CSAD641L, CSAD642, CSAD643, CSAD651, CSAD652, CSAD653, CSAD661, CSAD662, CSAD671, CSAD672, CSAD673

COURSE DESCRIPTION

Overview

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This course is an advanced study of the effects of aging on the auditory system, cognitive processes, and physical health of older adults. Emphasis will be on the functioning of older adult patients, rehabilitation, and the future of hearing health care and technology.

Approved Course Description (from CSUS Course Catalog)

Overview of physical, psychological, social, and cognitive changes that are associated with normal aging. Prevalent disorders, diseases, and conditions in older adults will be discussed. Effects of aging on diagnostic tests and rehabilitation for older adults. Interdisciplinary in nature.

WHY IS THIS COURSE IMPORTANT?

With the older adult (i.e. "Baby Boomer," or those born between 1946 and 1964) population growing, demands on health care services and society will also increase. This course is presented with an interprofessional focus to address the unique needs of the older adult population.

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	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. Explain the pathophysiology of age-related hearing loss
2. Summarize the clinical presentation of presbycusis and the effects of aging on the peripheral and central auditory systems' structures and functions
3. Describe the management of sensory impairment in older adults, including considerations for age, cognition, dexterity, etc.
4. Explain theories of aging as they relate to the auditory system, diagnosis, and management of hearing impairment
5. Discuss the impact of cognitive decline on audiologic assessments
6. Give examples of interprofessional work with nurses, physical therapists, and social workers for an older patient
7. Recognize signs of cognitive impairment in older adult patients
8. Administer a cognitive screening instrument and interpret the score for referral purposes
9. Discuss the impact of vision impairment and dual-sensory impairments on the audiologic evaluation
10. Prepare an assessment/management plan for a patient with hearing and vestibular impairments
11. Identify resources for community resources for services, activities of daily living, and financing health care

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12. Describe the effects of aging on communicative processes in the speech, language, and hearing systems

Graduate Learner Outcome	Component Indicating Competence	Grade(s) Received
1-7,9,11,12	Exam (100%)	
2,3,5,9,12	Community resource paper (100%)	
6,8,10,11	Class activities (100%)	
6,8,10,11	Interprofessional 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 graded class activities, participation in an interprofessional activity, community resource guide, and two exams.

Class Activities

Throughout the course, class activities will be used to allow students to improve their understanding of concepts, demonstrate knowledge and skills, and practice counseling techniques. Selected class activities will be graded.

Interprofessional Project

Audiology and physical therapy students will work together to assess a “patient” for this project. Each team consists of two audiology students and two physical therapy students. Each team will have 30 minutes to prepare an assessment and treatment plan that includes determination of function, differential diagnoses, and a plan of care, including recommendations. Students will then debrief with a faculty member before presenting their case to the class.

Community Resource Paper

Students will each prepare a resource guide for older adults in the community. Examples include hearing aid resources, support groups, dementia support groups, medication safety, and fall prevention.

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

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scheduled at the end of the semester (during finals week) and may be administered in a different format from the original exam.

- **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>
Interprofessional class activity	150
Community resource paper	100

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Graded class activities (25 points each x 4)	100
Exam 1	200
Exam 2	200
TOTAL COURSE POINTS AVAILABLE	750

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
1/20	Overview of course	Weinstein-Ch. 1-2 Howarth, A., & Shone, G. R. (2006). Ageing and the auditory system. <i>Postgraduate medical journal</i> , 82(965), 166-171.
1/22	Pathophysiology of age-related hearing loss	Lin, F. R., Thorpe, R., Gordon-Salant, S., & Ferrucci, L. (2011). Hearing loss prevalence and risk factors among older adults in the United States. <i>Journals of Gerontology Series A: Biomedical Sciences and Medical Sciences</i> , 66(5), 582-590.

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1/27	Pathophysiology of age-related hearing loss Hearing loss causes in the elderly	<p>Weinstein-Ch. 1-2, 4 Schuknecht, H. F., & Gacek, M. R. (1993). Cochlear pathology in presbycusis. <i>Annals of Otology, Rhinology & Laryngology</i>, 102(1_suppl), 1-16.</p> <p>Gates, G. A., & Mills, J. H. (2005). Presbycusis. <i>The Lancet</i>, 366(9491), 1111- 1120.</p> <p>Humes, L. E., Dubno, J. R., Gordon-Salant, S., Lister, J. J., Cacace, A. T., Cruikshanks, K. J., ... & Wingfield, A. (2012). Central presbycusis: a review and evaluation of the evidence. <i>Journal of the American Academy of Audiology</i>, 23(8), 635-666.</p>
1/29	Management of presbycusis	<p>Weinstein-Ch. 5-6 Willott, J., & Lister, J. (2003). The aging auditory system: anatomic and physiologic changes and implications for rehabilitation. <i>International Journal of Audiology</i>, 42, 2S3-2S10.</p> <p>Pichora-Fuller, M. K., & Souza, P. E. (2003). Effects of aging on auditory processing of speech. <i>International Journal of Audiology</i>, 42(sup2), 11- 16.</p> <p>Pichora-Fuller, M. K., & Singh, G. (2006). Effects of age on auditory and cognitive processing: implications for hearing aid fitting and audiologic rehabilitation. <i>Trends in Amplification</i>, 10(1), 29-59.</p> <p>Demeester, K., Van Wieringen, A., Hendrickx,</p>

		<p>J. J., Topsakal, V., Fransen, E., Van Laer, L., ... & Van de Heyning, P. (2009). Audiometric shape and presbycusis. <i>International Journal of Audiology</i>, 48(4), 222-232.</p> <p>Weinstein-Ch. 7-8</p> <p>Ko, J. (2010). Presbycusis and its management. <i>British Journal of Nursing</i>, 19(3).</p> <p>Ciorba, A., Bianchini, C., Pelucchi, S., & Pastore, A. (2012). The impact of hearing loss on the quality of life of elderly adults. <i>Clinical interventions in aging</i>, 7, 159.</p>
2/3	Theories of aging	<p>Jin, K. (2010). Modern biological theories of aging. <i>Aging and disease</i>, 1(2), 72.</p> <p>Cefalu, C. A. (2011). Theories and mechanisms of aging. <i>Clinics in Geriatric Medicine</i>, 27(4), 491-506.</p> <p>Martin, P., Kelly, N., Kahana, B., Kahana, E., Willcox, B. J., Willcox, D. C., & Poon, L. W. (2014). Defining successful aging: A tangible or elusive concept?. <i>The Gerontologist</i>, 55(1), 14-25.</p>
2/5	Psychosocial changes with aging	Weinstein- Ch. 3

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2/10	Changes in hearing: Audiometry, OAEs, immittance	Weinstein- Ch. 5
2/12	Changes in hearing: Audiometry, OAEs, immittance	Weinstein- Ch. 5
2/17	Older adults and speech perception	Weinstein- Ch. 6
2/26	Older adults and speech perception	Weinstein- Ch. 6
3/2	Review for Exam 1	
3/4	Exam 1	
3/9	The role of AR and communication management	Weinstein- Ch. 7
3/11	No class-spring break	
3/16	No class- spring break	
3/18	Sensory management	Weinstein- Ch. 8
3/23	Sensory management	Weinstein- Ch. 8
3/25	Cognition and cognitive aging [Nursing] Administering cognitive screening tests	<p>Weinstein-Ch. 10 Mahoney, D. F. (1993). CERUMEN IMPACTION Prevalence and Detection in Nursing Homes. <i>Journal of Gerontological Nursing</i>, 19(4), 23-30.</p> <p>Yueh, B., Shapiro, N., Garahan, M. B., Waller, J. A., Houghton, M., Tisdale, W. A., & Runge, C. F. (1992). Hearing loss prevalence and management in nursing home residents. <i>Journal of the American Geriatrics Society</i>, 40(2), 130-134.</p>
3/30	Cognition and cognitive aging	<p>MacLean, C. H., & Shekelle, P. G. (2003). Screening and management of adult hearing loss in primary care: scientific review. <i>JAMA</i>, 289(15), 1976-1985.</p> <p>Lin, F. R., Yaffe, K., Xia, J., Xue, Q. L., Harris, T. B., Purchase-Helzner, E., ... & Health ABC Study Group, F. (2013). Hearing loss and cognitive decline in older adults. <i>JAMA internal medicine</i>, 173(4), 293-299.</p>
4/1	Vision and dual-sensory impairments	Saunders, G. H., & Echt, K. V. (2007). An overview of dual sensory impairment in older adults: perspectives for rehabilitation. <i>Trends in amplification</i> , 11(4), 243-258.

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4/8	Vision and dual-sensory impairments	Schneider, J. M., Gopinath, B., McMahon, C. M., Leeder, S. R., Mitchell, P., & Wang, J. J. (2011). Dual sensory impairment in older age. <i>Journal of Aging and Health</i> , 23(8), 1309-1324.
4/13		Weinstein-Ch. 9 Horak, F. B. (2006). Postural orientation and equilibrium: what do we need to know about neural control of balance to prevent falls?. <i>Age and ageing</i> , 35(suppl_2), ii7-ii11.
4/15	Imbalance and falls [Physical therapy]	Madureira, M. M., Takayama, L., Gallinaro, A. L., Caparbo, V. F., Costa, R. A., & Pereira, R. M. (2007). Balance training program is highly effective in improving functional status and reducing the risk of falls in elderly women with osteoporosis: a randomized controlled trial. <i>Osteoporosis International</i> , 18(4), 419-425. Iwasaki, S., & Yamasoba, T. (2015). Dizziness and imbalance in the elderly: age-related decline in the vestibular system. <i>Aging and disease</i> , 6(1), 38.
4/20	Health care and social services [Social work]	Weinstein-Ch. 11 Monzani, D., Galeazzi, G. M., Genovese, E., Marrara, A., & Martini, A. (2008). Psychological profile and social behaviour of working adults with mild or moderate hearing loss. <i>Acta Otorhinolaryngologica Italica</i> , 28(2), 61. Mick, P., Kawachi, I., & Lin, F. R. (2014). The association between hearing loss and social isolation in older adults. <i>Otolaryngology--Head and Neck Surgery</i> , 150(3), 378-384. Dawes, P., Emsley, R.,

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		Cruickshanks, K. J., Moore, D. R., Fortnum, H., Edmondson-Jones, M., ... & Munro, K. J. (2015). Hearing loss and cognition: the role of hearing aids, social isolation and depression. <i>PLoS One</i> , 10(3), e0119616.
4/22	Disordered communication, swallowing [Speech-language pathology]	Schneider, B. A., Daneman, M., & Murphy, D. R. (2005). Speech comprehension difficulties in older adults: Cognitive slowing or age-related changes in hearing?. <i>Psychology and aging</i> , 20(2), 261.
4/27	Disordered communication, swallowing [Speech-language pathology]	Rogers, C. L., Lister, J. J., Febo, D. M., Besing, J. M., & Abrams, H. B. (2006). Effects of bilingualism, noise, and reverberation on speech perception by listeners with normal hearing. <i>Applied Psycholinguistics</i> , 27(3), 465-485. Yorkston, K. M., Bourgeois, M. S., & Baylor, C. R. (2010). Communication and aging. <i>Physical medicine and rehabilitation clinics of North America</i> , 21(2), 309-319.
4/29	Interdisciplinary approaches to aging, future research	
5/4	Review for exam	
5/11	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.