

**University of Wisconsin-Madison
Communication Sciences and Disorders**

Course: CSD 832 Pediatric Audiology

Term: Spring 2020

Number of credits: 3

This course covers pre and postnatal development of the auditory system, common causes of hearing loss in childhood, assessment of hearing in children including evaluation of (central) auditory processing disorders, and the importance and working of early intervention programs for children.

This course entails two 75-minute class periods each week over the spring semester and carries the expectation that students will work on course learning activities for about 3 hours out of classroom for every class period. The syllabus below details expectations for students work.

Schedule

Time: Mondays and Wednesdays 8:15 - 9:30 AM

Location: Goodnight Hall Rm 412

Instructor

Name: Viji Easwar, PhD, MSc Audiology

Email: veaswar@wisc.edu (Please include "CSD 832" in the subject line of emails)

Office hours: Mondays 9:30 – 10:30 AM

Office location: Room 475, Goodnight Hall, 1975 Willow Dr, Madison, WI 53706

Required text

Tharpe, A.M., & Seewald, R. (Eds.) (2017) Comprehensive Handbook of Pediatric Audiology, (2nd ed). CA: Plural Publishing

Recommended text

Madell, J., & Flexer, C. (2013) Pediatric Audiology: Diagnosis, Technology and Management, (2nd ed). NY: Thieme Publishers

Note: Additional required and recommended readings and videos may be posted on canvas before class.

Course webpage

Access through <https://canvas.wisc.edu/>

All course materials (syllabus, lectures, assignments) will be available on canvas. Lectures slides will be made available at least 1 hour before class. It is the student's responsibility to check for updates

Course learning outcomes

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

- Describe stages in embryonic and postnatal development of the auditory pathway
- Describe postnatal changes in auditory psychoacoustics, and speech perception
- Identify causes of childhood hearing losses and describe audiological profiles
- Describe the need for and construct audiological test batteries to evaluate hearing in children

- Identify children with auditory processing disorders (APD), develop an evaluation test battery for auditory processing disorders using behavioral and physiological measurements
- Describe the need for and implementation of early intervention programs

Course content

This course consists of 6 units in the following order (colour coded in course calendar on last page)

- Development
- Causes of hearing loss in children
- Behavioral assessment
- Objective assessment & test battery
- Auditory processing disorders
- Problem-based learning (case studies)

Grades are based on

- Four in-class non-cumulative tests – 50%
 - Test 1, 2 and 3 – 13% each (39% total)
 - Test 4 – 11%
- Presentation on causes of hearing loss - 10%
- Problem-based learning (case studies) – 15%
- Visual reinforcement audiometry (VRA) lab assignment – 10%
- APD lab assignment – 10%
- Question bank contributions – 5%

Grading scale

Percentage	100-92	91.9-90	89.9-88	87.9-82	81.9-80	79.9-78	77.9-72	71.9-70	69.9-68	67.9-60	<60
UW-SP Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F
UW-Madison Letter Grade	A	A-B		B	B-C		C	C-D		D	F

In-class tests

- All tests will be closed-book and conducted in class.
- Question types will include fill in the blanks, multiple choice, multiple answers, short answers, true/false, matching, and labelling.
- Questions regarding exams sent after 6 PM the day before the exam may not be answered.

Presentations – causes of hearing loss

- Students will be required to present on two assigned disorders for 6 minutes each
- The assigned topics and dates of presentation are provided in the document. CSD832_PresentationsCausesHL_Spring2020 posted on canvas. Topics are assigned based on student order on class roster.
- Instructions for the content to be included in presentations and the grading rubric are provided in the same document.

Problem-based learning (case studies)

- This activity is designed to simulate clinical assessment of a pediatric patient that students are likely to face as an audiologist. Upon successful completion of this module, students will be able to create patient-specific assessment plans, apply a test-battery approach, evaluate the need for referrals and make appropriate recommendations.
- Students will work in groups of three (some in pairs). Each group will be assigned one of five case profiles (A-E) with a brief background on the pediatric patient on the first day of class.
- Students are required to create a diagnostic assessment plan based on instructions provided in CSD832_PBLCaseEvaluations_Spring2020.
- At the end of the term, students are required to present their assessment plan in class.
- Grading rubric is available in CSD832_PBLCaseEvaluations_Spring2020.

VRA lab assignment

- The goal of this assignment is to help students achieve competence in performing VRA. Upon successful completion of the assignment, students will be able to use VRA equipment efficiently, score responses on a VRA worksheet and interpret results
- Students will work in groups of three but the assignment has to be completed individually
- Instructions, worksheet and grading rubric is provided in CSD832_VRAAssignment_Spring2020.

APD lab assignment

- The goal of this assignment is for students to get hands-on experience conducting and interpreting tests for APD evaluation. Upon successful completion of the assignment, students will be able to perform, score and interpret a sub-set of tests commonly used in the evaluation of APD.
- Students will work in pairs. Students must pick any two behavioral tests for evaluating processing disorders available in the clinic, and complete each test on each other. Students are required to complete each chosen test only once. It is recommended that they switch roles being the tester and listener. For tests that students are tester, they are encouraged to listen to the nature of stimulus for a brief part of the test.
- Students are required to document results in the score sheet available, and together as a group, score the test according to the test manual and interpret findings. It is the students responsibility to work out scoring based on the manuals available.
- Students must submit a group report with a scanned copy of the test worksheet, and provide their impression based on the score

Question bank

- At the end of each class (by midnight on Mondays and Wednesdays), each student must contribute ONE question to the question bank.
- Feedback on questions and answers will be provided within one day of submission. Submission will be graded ONLY on completeness.
- Questions can be based on lectures and/or readings.
- Submitted questions will be compiled and shared with students for their reference as a study guide and may appear in the exam.
- Instructions defining satisfactory submissions posted on canvas for every submission on canvas. Satisfactory questions will be awarded one point each.
- Exceptions for question submissions are not in the course calendar.

Academic honesty

This information is taken from “Academic Misconduct Rules and Procedures Guide for Students” prepared by the Office of the Dean of Students, 75 Bascom Hall (August, 1998). “UWS 14.03 Academic Misconduct Subject to Disciplinary Action (l) Academic misconduct is an act in which a student:

- (a) seeks to claim credit for the work or efforts of another without authorization or citation;
- (b) uses unauthorized materials or fabricated data in any academic exercise;
- (c) forges or falsifies academic documents or records;
- (d) intentionally impedes or damages the academic work of others;
- (e) engages in conduct aimed at making false representation of a student’s academic performance
- (f) assists other students in any of these acts.”

“Plagiarism means presenting the works or ideas of others without giving credit. You should know the principles of plagiarism and the correct rules for citing sources...If you are unsure about the proper ways to give credit to sources...consult the Writing Center.”

By enrolling in this course, each student assumes the responsibilities of an active participant in UW-Madison’s community of scholars in which everyone’s academic work and behavior are held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. This includes but is not limited to failure on the assignment/course, disciplinary probation, or suspension. Substantial or repeated cases of misconduct will be forwarded to the Office of Student Conduct & Community Standards for additional review. For more information, refer to <https://www.students.wisc.edu/doso/academic-integrity/>.

Special accommodations

If students need any special accommodations in the curriculum, instruction or assessments of this course, for reasons including religious observance to enable them to fully participate, please let the instructor know by the 27th of Jan, 2020.

Course calendar

Reading assigned for each class must be completed before class. Non-text book readings and videos will be posted on canvas.

Unit	Date	Topic	Readings (regular font: required; italicized: recommended)	Deadlines (Question bank due every midnight, except Jan 22, presentation days & tests)
	Wed, Jan 22	Introduction, Unit 2 and Unit 5 assignments		Unit 5 Problem-based learning opens
Unit 1 Development	Mon, Jan 27	Embryology, postnatal	Ch 1; <i>Abdala & Keefe 2012 (canvas)</i>	Special accommodation requests due
	Wed, Jan 29	Embryology, postnatal	Ch 1; <i>Abdala & Keefe 2012 (canvas)</i>	
	Mon, Feb 3	Central pathways; Effects of HL	Ch 2; <i>Moore & Linthicum 2007 (canvas)</i>	
	Wed, Feb 5	Use of AEPs; Psychoacoustics and speech perception	Ch 3 & 4; Milestone moments (canvas)	
	Mon, Feb 10	Psychoacoustics and speech perception, milestones		
	Wed, Feb 12	Test 1		
	Unit 2 Causes of hearing losses in children	Mon, Feb 17	Childhood causes of hearing loss - introduction	Ch 6; Mercer (2015) (canvas)
Wed, Feb 19		Syndromic causes - presentations	<i>Ch 5 p.106 - 112</i>	
Mon, Feb 24		Syndromic and non-syndromic causes - presentations		
Wed, Feb 26		Pre/perinatal environmental causes - presentations	<i>Ch 9 until p.189; Ch 5 p.112-114</i>	
Mon, Mar 2		Postnatal environmental causes - presentations	<i>Ch 9 p.189 to end; Ch 5 p.114-117</i>	
Wed, Mar 4		Test 2 (non-cumulative)		
Unit 3 Behavioral assessment	Mon, Mar 9	Assessment (case history, behavioral testing)	Ch 23, 24	VRA assignment opens
	Wed, Mar 11	Assessment (behavioral testing)		
	Mon, Mar 16	No class - spring recess		
	Wed, Mar 18	No class - spring recess		
	Mon, Mar 23	Assessment (speech testing)	Medell Flexer Ch 11	
	Wed, Mar 25	Assessment (objective approaches)	Ch 20, 21; Ch 22 ; CSD 858 ABR hearing assessment lecture	
Unit 4 Objective assessment & test battery	Mon, Mar 30	Assessment (test battery)	Gravel 2001 (canvas)	
	Wed, Apr 1	No class - time for VRA assignment & case studies		Meet instructor by Apr 1 re Unit 5
	Mon, Apr 6	ANSD Assessment	Ch 11, 12; <i>Guidelines (canvas)</i>	VRA assignment due
	Wed, Apr 8	Test 3 (non-cumulative)		
	Mon, Apr 13	EHDI	NCHAM Ch 1 (canvas); Ch 15, 18	
Unit 5 Auditory processing disorders	Wed, Apr 15	APD (Guest lecture)	Ch 13; <i>Medell Flexer Ch 16 & AAA guidelines (canvas)</i>	APD lab assignment opens
	Mon, Apr 20	APD (Guest lecture)		
	Wed, Apr 22	Test 4 (EHDI, APD)		
Unit 6 Problem-based learning	Mon, Apr 27	Group case presentations (A, B)	no readings	Presentation draft due Apr 20
	Wed, Apr 29	Group case presentations (C-E)		Presentation draft due Apr 23
	Mon, May 4			APD assignment due

KASA statements associated with CSD 832

	Knowledge Area	Type of Documentation/ Experience
A1.	Embryology and development of the auditory and vestibular systems, anatomy and physiology, neuroanatomy and neurophysiology, and pathophysiology.	Exam
A1.	Genetics and associated syndromes related to hearing and balance.	Exam, Presentation
A1.	Normal aspects of auditory physiology and behavior over the lifespan.	Exam
A3.	Normal development of speech and language.	Exam
A3.	Language and speech characteristics and their development across the life span.	Exam
A2.	Effects of chemicals and other noxious elements on auditory and vestibular function	Exam, presentation
A8, A16.	Patient characteristics (e.g., age, demographics, cultural and linguistic diversity, medical history and status, cognitive status, and physical and sensory abilities) and how they relate to clinical services.	Exam, presentation, assignment
C4.	Pathologies related to hearing and balance and their medical diagnosis and treatment.	Exam, presentation, assignment
AA4.	Principles, methods, and applications of psychoacoustics.	Exam
A15, A16, D1-9.	Principles and applications of counseling.	Exam, presentation
A17-18, B5	Consultation with professionals in related and/or allied service areas.	Exam, presentation
B1-2.	Implement activities that prevent and identify dysfunction in hearing and communication, balance, and other auditory-related systems.	Exam
B11-12.	Screen individuals for speech and language impairments and other factors affecting communication function using clinically appropriate, culturally sensitive and age- and site-specific screening measures.	Exam
C1-3, E1	Evaluating information from appropriate sources and obtaining a case history to facilitate assessment planning.	Exam, assignment
C4, C7-11, C13-16.	Conducting and interpreting behavioral and/or electrophysiologic methods to assess hearing thresholds and auditory neural function.	Exam, presentation
C7,C12.	Conducting and interpreting otoacoustic emissions and acoustic immittance (reflexes).	Exam
C15.	Evaluating auditory-related processing disorders.	Exam, lab
A10, C3, E5.	Evaluating functional use of hearing.	Exam
B9, B13, C1, E20.	Referring to other professionals, agencies, and/or consumer organizations.	Exam, presentation, assignment