CD 674 Pediatric Audiology
Course Syllabus

Course Description

In this course students will have the opportunity to learn about the embryologic and physiologic development of the auditory system, genetics and hearing loss, as well as non-genetic causes of hearing loss, and physiological and behavioral assessments of auditory function commonly used with infants and children.

Learning Outcomes

After completing this course, students will be able to achieve the following objectives:

1. Describe the embryology of the auditory system and the genetics & hearing loss.
2. Characterize various non-genetic auditory disorders of the outer, middle, and inner ear
3. Differentiate between the auditory skills of infants and adults
4. Explain the impact that hearing loss has on the auditory, communication, psychosocial and educational development of the pediatric population.
5. Describe pediatric hearing assessments (physiological & behavioral).
6. Characterize amplification/implant options.

Knowledge and Skills Analysis (KASA) for Department Majors

For majors in speech-language pathology, this course contributes to:
Standard III-C: Demonstrated Knowledge of the Nature of the following Disorder Categories
Category: Receptive and Expressive Language
- □ Characteristics

Etiologies
- □ Characteristics

Standard III-D: Prevention, Assessment and Treatment Methodology of the Following Category: Hearing and Impact on Speech and Language
- □ Prevention
- □ Assessment
- □ Intervention

Standard III-F: Knowledge
- □ Research and Integration of research principles into evidence-based clinical practice

Standard III-H: Knowledge
- □ Certification, specialty recognition, licensure, and other relevant professional credentials

Readings: The instructor will assign required readings.

*Please consult Moodle often, as new material (lecture notes & readings) will be added to topic folders throughout the semester.

Required Textbook: Madell, Jane and Flexer, Carol. (2013). *Pediatric Audiology: Diagnosis, Technology and Management.* 2nd edition. New York: Thieme.

Supplement readings will be posted on Moodle.

Course Requirements:

1) Two in-class midterm examinations	25% each
2) One web-based examination	20%
3) In-class group presentation	20%
4) Class participation	10%

I. **Examinations:** There will be two 1-hour in-class midterm exams and web-based exam. Question format for the midterm will include: multiple choice, true/false, identification of terms (short but detailed descriptions of important terminology introduced in class) and short essay questions. The web-based exam, open book & online exam will be consisted of short & longer comprehensive essay questions. The midterms are scheduled tentatively for Thursday, October 5 and November 9. The final examination is scheduled for Thursday December 14. Each in-class midterm is worth 25% and the web-based on is worth 20% of the final grade.

There will be no make-up exam and they may not be taken at an alternative time unless there is some documented excuse.

II. **Group presentation (20%)**: You will be paired with a partner to prepare an in-class presentation on a syndrome or hearing disorder chosen from the provided list shown below. The length of presentation should be approximately 20 min. You need to prepare for a presentation using ppt slides and 1 page handout that needs to be distributed to the class on the day of your presentation. Presentation should include:

1. Definition/characteristics of syndrome
2. Expected type/degree of hearing loss due to syndrome
3. Clinical case interpretations
    - You must include patient's audiogram and additional behavioral and physiological assessments such as Speech/Language tests, Tympanometry, ABR, Acoustic reflex and/or OAE.
    - You might want to include assessments of cognition, motor and/or social & emotional development if necessary.

1. **Connexin / Klein-Felder's Syndrome:**

2. **Pendred / Turner syndrome:** Arielle Eliav & Ismael Gaeta
3. **Mitochondrial (mutation)/ Apert Syndrome:** Anastasia & Arya
4. **Auditory Neuropathy/ Phenylketonuria:** Kailee McMaster & Montserrat
5. **Alport/ Goldenhar syndrome:** Alexa Javanfard & Crystal Conrad
6. **Branchio-Oto-Renal/ Stickler syndrome:** London Lang & Amanda Kahovec
7. **CHARGE/ Treacher Collins Syndrome:** Sayeh Goel & Angeline Betts
8. **Jervell and Lange-Nielson/ Down syndrome: Carolina Ramirez and Gabriela Lopez**
9. **NF II/ Congenital Rubella Syndrome:** Megan Bojar and Lauren Grossman
10. **Usher/ CMV infection:** Nicole del Castillo & Kristen Inouye
11. **Waardebberg/ Klippel-Feli syndrome:** Elizabeth Cho & Alysa Ferrante
12. **Hemifacial microsomia/ Otitis media**

III. Class participation (10%)

1. As an audience, you will evaluate each presentation using a rating scale (1 for "poor" and 5 for "excellent") based on relevance of background, adequacy of presenter's interpretation, clinical significance and or accuracy/clarification of the information. Evaluation form will be provided during the class.

2. In addition, you are required to write one "discussion generator" which asks questions about the presenters' interpretations, the applications of the findings, clinical significance, or research methods.

Special Needs

If you have a disability and need accommodations, please register with the Disability Resources & Educational Services (DRES) office (http://www.csun.edu/dres/index.php). The DRES office is located in Bayramian Hall, room 110. If you would like to discuss your need for accommodations with me, please make an appointment.
Contact information and office hours for Disability Resources and Education Services:

Northridge 18111 Nordhoff Street, Bayramian Hall 110 Northridge, CA 91330-8264
General E-mail: dres@csun.edu
Phone: (818) 677-2684 **Fax:** (818) 677-4932
Alternative Testing E-Mail: Alternative.testing@csun.edu **Alternative Testing Fax:** (818) 677-6783
Office Hours *Student Services* Monday - Friday, 8:00 AM - 4:45 PM

Academic Dishonesty:

Student academic dishonesty will not be tolerated and will result in penalties as described in the University Catalog. Written papers are screened for dishonesty through the Turn it in program.

Classroom Disruption and Mobile Electronic Devices

Increasingly, inappropriate use of laptop computers and other electronic devices during class, such as shopping, net surfing, and texting, have been reported by nearby students as being significantly disruptive to concentration on the instructor's lecture.

Therefore, you must comply with the following policies:

1. Use of laptop computers, computer tablets and iPads, and mobile phones is not permitted during class. Cell phones must be put away, and computers may only be used for taking notes during lectures. The instructor does have the right to ban computer use if they become a distraction during the class period.The only exception regarding electronic devices is for authorized note-takers who are accommodating students with recognized disabilities or deafness.

2. Audio recording of class lecture is permitted by placing and retrieving the recording device from the front of the classroom. Video recording of class is not permitted. Photography is not permitted.

3. Furthermore, if you have a reasonable excuse to leave the class early, you should let me know ahead. It is quite impolite and disruptive if you walk out of the class in the middle of lecture. Let's be courteous to each other.

As an instructor, I have a right to ask you to leave if you do not comply with these policies and as a result, disrupt the class.

Grading Scale:

A 94-100%

A- 90-93.9%

B+ 87-89.9%

B 83-86.9%

B- 80-82.9%

C+ 77-79.9%

C 73-76.9%

C- 70-72.9%

D+ 67-69.9%

D 60-66.9%

F 59.9% and below

TENTATIVE COURSE SCHEDULE

DATE	TOPICS	READINGS	STANDARDSS
Module 1	Role of Pediatric audiological assessment, ethics, theories, & regulations. Issues related to diversity, and evidence based therapy for servicing	Chap. 1 & 2	**CTCPD 2b** **CTCPD 3a**

	communicatively disabled clients and their families.		
Module 2	Embryologic development of the auditory system in terms of structures and processes; milestones of development for both normal and abnormal individuals.	Reading 1: Embryology of the auditory system	**CTCSLP 1a** **CTCSLP 2a**
Module 3	Development of the Auditory System including the acoustics of sound, the transduction process in the cochlea, auditory perceptual skills; and the psychoacoustics involved in the development of speech & hearing.	Reading 2 & Chapter 11	**Presentation 1 & 2** **CTCSLP 1c**
Module 4	Development of Speech Perception & production—the physical and psycho acoustic bases for speech perception and growth and the assessment and impact of hearing and perceptual abnormalities on language development.	Reading 3--Age of HL identification & Language development	**Presentation 3 & 4 CTCSLP 1b**
Module 5	EHDI/Risk Factors & Diversity issues in development and assessment including cultural, socio economic, linguistic and dialectal differences and impacts. Hearing Screening: Newborn screening & Screening in preschool & school-aged children	Chapter 5 Reading 4 (Position statement of JCIH)	**Presentation 5 & 6** **CTCSLP 2b** **CTCSLP 2c**
Module 6	**Exam 1: Objective multiple choice/fill in the blank Test covering:** Assessment of Hearing loss taking into consideration normal and abnormal physical structures and processes involved, including issues of diversity such as gender, culture, first and second languages.	Chapter 6	**CTCPD 2b** **CTCPD 3a** **CTCSLP 1a** **CTCSLP 1b** **CTCSLP 1c** **CTCSLP 2a** **CTCSLP 2b** **CTCSLP 2c**

Module 7	Screening and Assessing Hearing Loss: Making an accurate interpretation of Audiograms and appropriate referrals for further testing or treatment as warranted; Behavioral assessments (BOA, VRA, TROCA & VROCA)	Chapter 6, 7, 8 & 9	**Presentation 7 & 8** **CTCSLP 4e** **CTCSLP 4g** **CTCSLP 4g**
Module 8	Physiological Assessment: ABR/ASSR –screen and comprehensive	Chapter 15	**Presentation 9 & 10**
Module 9	Physiological Assessment: 1. OAE – screen and comprehensive 2. Middle ear measurement – screen and comprehensive	Ch 13 & 12	**Presentation 11 & 12**
Module 10	**Exam 2— Objective multiple choice, true false and/or fill in the blank Test covering**: Hearing Screening procedures, including interpretation and referrals for further evaluation and/or treatment as warranted.	Reading 5: Genetics of childhood HL	**CTCSLP 4e, 4g**
Module 11	**No Class (ASHA convention)**		
Module 12	Genetic and non-genetic causes of hearing loss for clients having normal development and those with various Syndromes or other developmental disorders such as autism, cerebral palsy, cleft palate, TBI or learning disabilities etc.	Chapter 3	**CTCSLP 3a** **CTCSLP 3b**
Module 13	**NO class (Thanksgiving)**		
Module 14	The characteristics of most common pediatric auditory disorders and the strategies involved in treating clients with hearing loss. Otitis Media & (C)APD	Ch. 12 & 16	**CTCSLP 5b**

Module 15	Hearing Aid Amplification/Hearing Instrument instruction, Cochlear Implants, AAC: Candidacy, Evaluation, Mapping, counseling & collaboration with the client and the family, the medical professionals, teachers & administrators, , occupational therapists and social workers when warranted.	Chapter 20 & 22 Reading 6 (CI for young children)	**CTCPD 4a** **CTCSLP 6g,5g**
Module 16	**Exam 3 Objective multiple choice, true false and or fill-in questions (web-based) covering:** Collaboration with the client, care takers, related professionals, teachers, trans disciplinary teams etc**.** in the assessment and treatments of hearing disorders and its impact; the incidence and effects of hearing disorders among the normal as well as the disabled population; and interventions including both counseling, instruction, and the use of AAC (viz. auditory implants, hearing aids & Speech Generating Devices etc.)		**CTCPD 4a** **CTCSLP 3a** **CTCSLP 3b** **CTCSLP 5b** **CTCSLP 5g**

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Linking Document

Introduced (I)

Practiced (P)

Assessed (A)

CTCPD

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CTCSLP

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