

## Audiology

### **AUD 681L Clinical Practicum I-Lab 1 TO 3 cr**

Students will obtain experience administering audiologic assessments and intervention techniques with clinical populations in the USA Speech and Hearing Center or in off-campus clinical practicum sites under direct supervision. Co-requisite: AUD 681

### **AUD 682L Clinical Practicum II-Lab 1 TO 3 cr**

Students will obtain experience administering audiologic assessments and intervention techniques with clinical populations in the USA Speech and Hearing Center or in off-campus clinical practicum sites under direct supervision. Co-requisite: AUD 682

### **AUD 683L Clinical Practicum III-Lab 1 TO 3 cr**

Students will obtain experience administering audiologic assessments and intervention techniques with clinical populations in the USA Speech and Hearing Center or in off-campus clinical practicum sites under direct supervision. Co-requisite: AUD 683

### **AUD 590 Seminar in Audiology 1 TO 6 cr**

This course is designed to provide the opportunity for in-depth study of special interest in Audiology. Requires approval of Department Chair.

### **AUD 612 Anatomy-Physio Hearing Mech 4 cr**

Study of the anatomy and physiology of the nervous system, the anatomy and physiology of the outer, middle, inner ear, including the vestibular system, and the central auditory nervous system.

### **AUD 613 Psychoacoustics 3 cr**

Study of the principles, procedures and research involved in the field of psychoacoustics and of the relationships between the physical dimensions of auditory stimuli and the resultant perceptual experience as well as the relationships among psychoacoustic testing and both auditory physiology and the audiologic evaluation process. Participation in laboratory assignments will be required.

### **AUD 614 Instrumentation and Acoustics 3 cr**

Study of basic electricity, acoustics and measurement of sound properties, wave analysis, transducers, measuring and calibration systems, speech processing systems, and system interaction and integration.

### **AUD 616 Resrch Design Hearing Sci 3 cr**

Research designs utilized in the hearing sciences; elements of research proposals and studies; how to critique a research study; how to conduct a literature review; APA format; students will be required to write precis of research articles and write a research proposal. Elements of modern statistics including sets and functions, probability theory, hypothesis testing, analysis of variance models, correlation, and regression.

### **AUD 621 Professional Issues 3 cr**

This course will address a variety of professional issues such as organizations, societies, and their histories; codes of ethnics; scopes of practice; credentialing and licensure; the development of the AUD; guidelines and position statements generated by ASHA and AAA; standards and best practices; methods and models of service delivery; and audiology practice management.

### **AUD 622 Medical Audiology 4 cr**

This course will address acquired and congenital diseases and disorders of the outer, middle, and inner ear and the central auditory nervous system occurring across the lifespan; imaging techniques; non-audiologic medical and surgical interventions for these conditions; and cerumen management techniques; and appropriate methods for monitoring of patients prescribed potentially ototoxic medications.

### **AUD 623 Pharma & Ototox Monitoring 3 cr**

This course will provide the basic science background necessary to understand the effects of medications on the auditory and balance systems. This course will also address drug treatment strategies for hearing loss and balance disorders. Topics will include mechanisms of drug actions, side effects, how age and disease affect these mechanisms, and specific effects of certain drugs on the hearing and balance system. This course will additionally address appropriate methods for identification and monitoring of patients prescribed potentially ototoxic medications.

### **AUD 630 Electroac Char of Amp Systems 3 cr**

This course will address styles and types of earmolds, hearing aids, and assistive listening devices; components common to all amplification systems as well as optional features (such as directional microphones, volume controls, telecoils, etc.) and their electroacoustic properties and functioning; use of ANSI standards; physical, acoustic and electroacoustic modifications of earmolds and amplification systems.

### **AUD 631 Sel, Fit & Verif of Amp Sys 3 cr**

This course will address the principles of selection, fitting, and verification of amplification systems, including hearing aids and assistive listening devices; subjective and objective audiologic assessments used to determine need for, select, and fit appropriate amplification systems for patients of all ages; and techniques used to select and fit amplification systems. The course will also address subjective and objective verification procedures, specifically addressing the importance of including Real-Ear Measures and subjective self-assessment measures in the amplification process.

- AUD 632 Hearing Aid Lab** 1 cr  
This course will address the principles of verification and validation; tools used to verify appropriate fitting of amplification systems (such as real-ear probe-mic equipment) and techniques used to validate fitting (such as software packages, and subjective and objective audiologic measures); cochlear implant remapping.
- AUD 633 Advanced Sensory Aids** 3 cr  
This course will address advanced technologies for individuals with hearing-impairment such as cochlear and brainstem implants, vibrotactile aids, and implantable devices, as well as the selection and fitting of these technologies.
- AUD 640 Basic Audiologic Assessment** 3 cr  
This course will address the principles of cross-check, the test battery approach, differential diagnosis, relevant test equipment, instruments, and transducers, administration and interpretation of the pure-tone testing, clinical masking, case history, otoscopy, and tuning-fork tests, speech audiometry; tests for pseudo-hypoacusis, ototoxicity, site-of-lesion testing and historical assessments; and informal assessment procedures.
- AUD 641 Immit & Otoacous Emission Meas** 3 cr  
This course will address administration and interpretation of acoustic immittance and otoacoustic emission measures across the lifespan. Topics will address standard and multi-frequency tympanometry, acoustic reflex testing, and eustachian tube function testing; spontaneous, transient and distortion-product OAE measurement; and the influence of intrinsic and extrinsic variables, including cochlear and retro-cochlear pathology, on outcomes and differential diagnosis.
- AUD 642 Pediatric Audiology** 3 cr  
This course will address issues associated with providing audiologic services to pediatric and developmentally delayed populations. Issues will include gestational development, test administration and interpretation; genetic transmission of hearing loss, risk factors for hearing loss; principles of screening and the development and construction of a screening program; universal newborn hearing screening and early hearing detection and intervention programs.
- AUD 643 Audiology and Aging** 3 cr  
This course will address the issues associated with providing audiologic services to older adults. Issues will include effects of aging on anatomy, physiology, and function, and test administration and interpretation issues specific to older adults.
- AUD 645 Evoked Potential Measures** 3 cr  
This course will address instrumentation (transducers and electrode types); application and interpretation of evoked potential (EP) measures including ENOG, ECochG, ABR, middle and late potentials, across the lifespan; sedation protocols; assessment protocols associated with different EP measures and the populations to which they are applied; population norms; intrinsic and extrinsic variables affecting EP results; differential diagnosis of auditory neuropathy; troubleshooting.
- AUD 647 Adult Audio Rehabilitation** 3 cr  
This course will address the implications of hearing loss in adulthood including the educational, vocational, social and legislative concerns of adults with hearing loss; assessment tools and intervention techniques used to maximize communication skills, including communication strategy training, speechreading, and group therapy approaches.
- AUD 648 Counseling Hear Imp-Families** 3 cr  
This course will address various theories, principles and techniques associated with the social and psychological aspects of disability as well as issues specific to and techniques used when counseling patients with hearing loss and their families.
- AUD 649 Ped Habil & Educ Audiology** 3 cr  
This course will address the speech, language, and communication of children with hearing impairment. Manual and oral modes of communication will be discussed, including American Sign Language, Signing Essential English I and II, Cued Speech, Total Communication, and Auditory-Verbal Therapy. Other issues to be addressed will include the development, management, and utilization of hearing and middle ear system screening programs, classroom acoustics, selection and fitting of classroom-based amplification, and federal law associated with children with special needs. Taught Spring Semester.
- AUD 651 Assess-Treatmnt Cent Aud Proc** 3 cr  
This course will address the development, assessment, and interpretation of an auditory processing test battery across the lifespan, as well as intervention approaches.
- AUD 653 Industrial-Forensic Audiology** 3 cr  
This course will address federal noise standards, effects of noise exposure on the auditory system, sound measurement and instrumentation, development and implementation of a hearing conservation program, hearing protection devices and forensic audiology.
- AUD 654 Tinnitus and Hyperacusis** 3 cr  
This course will address assessment and intervention approaches used in the management of tinnitus and hyperacusis.

**AUD 655 Spch-Lang Path for Audiologist 3 cr**

This interprofessional education (IPE) course will address the foundational knowledge and skills necessary for audiologists to work together with speech-language pathologists in interprofessional collaborative teams. Specifically, this course will address the scope of practice in audiology, speech-language screening, speech-language report literacy and special topics.

**AUD 656 Vestibular Assessment 4 cr**

This course will include a discussion of the peripheral and central anatomy and physiology of the balance system and the test measures used to assess the function of this complex system. Topics will include case history and screening measures, as well as test protocols and analysis of results on electronystagmography/videonystagmography, rotational testing, posturography, and vestibular evoked myogenic potentials. Taught Spring Semester.

**AUD 657 Management of Vestibular Disor 2 cr**

This course will focus on peripheral and central disorders of the vestibular system and the interpretation of results on diagnostic tests in disordered patients. Pharmacological and surgical treatments of dizziness will be discussed, as well as rehabilitative techniques to manage the vestibular pathology.

**AUD 658 Advanced Neurophys Measures 3 cr**

This course will address advanced electrophysiological techniques, including ENOG, ALR, ERPs (i.e. P300, etc), and neuroimaging techniques (fMRI and PET) with an emphasis on auditory and cognitive processing, across the lifespan; source localization techniques; instrumentation; stimulus and acquisition parameters; measurement procedures; analysis and interpretation.

**AUD 661 Developmnt-Managemnt Aud Prac 3 cr**

This course will address issues associated with audiology practice management including techniques involved in developing a mission statement and a business plan; working with an accountant; determining type, location, and name of practice; regulation, licensure, and hiring a legal advisor; equipment and service delivery decisions; establishing accounts with suppliers, paying bills and budgeting; third-party reimbursement, Medicaid, and Medicare; hiring and supervision; demographics and marketing; use of outcome data; and professional writing.

**AUD 674 Special Projects in Audiology 3 cr**

Student will be required to develop a variety of projects during their academic training, some of which will be further developed and completed during this course.

**AUD 675 Special Topics in Audiology 1 cr**

Student will identify cases or service delivery issues of clinical or professional interest and present these cases or issues to fellow students, clinical supervisors, and faculty via chat room in a grand rounds format.

**AUD 680 Clinical Methods in Audiology 1 TO 3 cr**

Students will become familiar with and conduct basic audiologic procedures with non-clinical populations by completing various lab assignments. Students will also observe clinical activities in the USA Speech & Hearing Center.

**AUD 681 Clinical Practicum I 1 TO 3 cr**

Discussion of instrumentation, procedures, and approaches to assessment and intervention in audiology.  
Co-requisite: AUD 681L

**AUD 682 Clinical Practicum II 1 TO 3 cr**

Discussion of instrumentation, procedures, and approaches to assessment and intervention in audiology.  
Co-requisite: AUD 682L

**AUD 683 Clinical Practicum III 1 TO 3 cr**

Discussion of instrumentation, procedures, and approaches to assessment and intervention in audiology.  
Co-requisite: AUD 683L

**AUD 684 Clin Externship in Audiology 1 TO 12 cr**

Off-campus opportunity to obtain clinical experience in a full-time setting. In addition, student may be required to identify cases or service delivery issues of clinical or professional interest and present these cases or issues to fellow students, clinical supervisors, and faculty via an online forum in a grand rounds format.

**AUD 699 Thesis 1 TO 3 cr**

Under the advice and guidance of a faculty member, students will identify and complete a research project relevant to the field of Audiology. Requires approval of the Department Chair.