

Doctor of Audiology  
Transitional Degree Program  
Distance Education for Practicing Audiologists

Curriculum Guide

**Au.D.**

# DOCTOR OF AUDIOLOGY TRANSITIONAL PROGRAM CURRICULUM (Distance Learning)

## COURSE DESCRIPTIONS

Modules of instruction used for the Audiology distance education program allow specific areas of knowledge and clinical practice to be defined and presented in concise units. Each module is four to eight weeks in length (indicated in parentheses following the description). Credit assigned to Audiology modules are: one quarter credit hour for a four-week module and two quarter credit hours for an eight-week module. *Course descriptions, course durations, and related information are subject to change.*

### **AUD 700 Professional Roles and Responsibilities (Required course for all students)**

History of audiology and the mission of the Arizona School of Health Sciences/Kirksville College of Osteopathic Medicine. Professional roles and responsibilities of audiologists in today's healthcare arena. (4 weeks/1 credit)

### **AUD 702 Auditory and Vestibular Neuroanatomy and Neurophysiology**

A study of the development, structure and function of the central nervous system, focusing on anatomical landmarks, cranial nerves, neurovasculature, and auditory/vestibular pathways. (8 weeks/2 credits)

### **AUD 726 Infection Control**

In-office infection control procedures for audiologists, covering Universal Precautions, cleaning and sterilization of instruments, and regulations. This module includes counseling patients on infection control procedures. (4 weeks/1 credit)

### **AUD 731 Cerumen Management**

Tools and techniques for cerumen removal. This module includes a review of precautions, recommendations for referral, and regulations regarding cerumen removal. (4 weeks/1 credit)

### **AUD 733 Tinnitus**

This module is designed to introduce students to the fundamental principles of clinical management for patients with severe tinnitus. This module

includes basic information concerning, tinnitus epidemiology, tinnitus mechanisms, tinnitus measurement, tinnitus treatment and resources for audiologists and patients including the American Tinnitus Association. (4 weeks/1 credit)

### **AUD 736 Immittance**

Instrumentation and techniques for measuring acoustic immittance. Topics include tympanometry, acoustic reflexes, reflex decay, multi-component tympanometry, and interpretation of results for the differential diagnosis of auditory pathologies. (4 weeks/1 credit)

### **AUD 737 Otoacoustic Emissions**

The origin and classification of otoacoustic emissions. Test equipment and procedures for obtaining emissions. Interpretation of results and uses of otoacoustic emissions data in differential diagnosis of auditory disorders. (4 weeks/1 credit)

### **AUD 744 Overview of Auditory Evoked Potentials**

This course module is designed to offer introductory principles of various physiological and electro-physiological measurements in the area of auditory evoked potentials (AEPs). Whereas AEPs comprise a series of electrical events throughout the entire auditory pathway, particular attention will be focused on short-latency AEPs measurement and their clinical application. This module will cover Electrocochleography and the Auditory Brainstem Response. Also, there will be short discussions of the Auditory Steady State Response and the Stacked ABR paradigms and their clinical applications. Understanding diagnostic applications and basic interpretation of test results and their relation to neuroanatomy and neurophysiology of the auditory system will be emphasized. (4 weeks/1 credit)

### **AUD 745 Introduction to Auditory Evoked Potentials**

A study of auditory evoked potentials, focusing on electrocochleography and auditory brainstem response audiometry, with basic definitions of middle and late evoked responses. Covers interpretation of test results and the relation of

data to neuroanatomy and physiology of the auditory system. Requires access to ABR equipment for the completion of laboratory assignments. (8 weeks/2 credits)

#### **AUD 746 Advanced Auditory Evoked Potentials**

Peripheral and cortical auditory evoked potentials are useful tools in assessing auditory processing beyond the estimation of hearing sensitivity. The Advanced Auditory Evoked Potential module provides a study of clinical tools for use in the differential diagnosis of cochlear vs. neural function, a diagnostic test battery for auditory neuropathy, stacked ABR, automated signal processing stopping techniques (Fsp), and current uses of ASSRs and cortical potentials in the investigation of sensorineural hearing loss and aging. The primary goal of this module is to provide the advanced clinical audiologist with knowledge and skills to pursue additional audiologic information for the diagnosis and rehabilitation of their patients. (8 weeks/2 credits)

#### **AUD 750 Intraoperative Monitoring: An Introduction**

Intraoperative monitoring (IOM) explores the relationship between the cranial nerves, their related anatomy and physiology and the pragmatic application of intraoperative monitoring as it relates primarily to applied surgical techniques. The course addresses the cranial nerves, discussions about the most common otologic and neurologic surgical techniques, the most common intraoperative monitoring protocols for the audiologist, and the outcomes of the same. (4 weeks/1 credit)

#### **AUD 751 Assessment of Auditory Processing**

Diagnosis of central auditory processing disorders through the use of case history/questionnaires, speech audiometric tests, nonspeech tests and electrophysiologic tests. (8 weeks/2 credits)

#### **AUD 752 Treatment of Central Auditory Processing Disorders**

Anatomy and physiology of the central auditory nervous system as it relates to normal and disordered processing. Using this knowledge to determine appropriate counseling and remediation for patients and their families. (8 weeks/2 credits)

#### **AUD 761 Earmolds and the Human Ear Canal**

The human ear canal and its dynamic aspects. Topics included are otoplastics, earmold styles, impression-taking techniques, earmold modifications and the acoustics of earmolds and tubing. (4 weeks/1 credit)

#### **AUD 763 Real Ear Measures**

Measurement procedures and interpretation of real ear measures, including functional gain, probe microphone measures and real ear loudness mapping. (8 weeks/2 credits)

#### **AUD 766 Troubleshooting Hearing Aid Fittings**

Troubleshooting, modification and repair of hearing aids. Including how to address difficult fitting issues such as feedback, surgical ears, temporomandibular joint movement and precipitous high frequency loss throughout the evaluation and fitting processes. (8 weeks/2 credits)

#### **AUD 767 Assistive Listening Devices**

Available technology to assist the hearing impaired in the home and in the community, including hardwired devices, FM, induction loops, and infrared. Selecting, dispensing and evaluating assistive listening devices. (8 weeks/2 credits)

#### **AUD 771 Advanced Hearing Aid Technology: Part One**

This course is designed for the student with minimal hearing aid experience. Topics include hearing aid components, concepts such as headroom, signal-to-noise ratios, high-fidelity amplification and limiting systems in hearing aids. Special topics include CROS fittings, deep canal fittings, and disposable or entry level hearing aids. (8 weeks/2 credits)

#### **AUD 772 Advanced Hearing Aid Technology: Part Two**

This course is designed for the student with moderate hearing aid experience and knowledge of hearing aid components and terminology. Topics include direction microphones, beamforming technology, digital hearing aids, hearing aid selection and hearing aid verification/outcome measures. This course may be taken in sequence following AUD 771. (8 weeks/2 credits)

### **AUD 780 Cochlear Implants**

This course is intended to be an introduction to cochlear implants. The individual completing the course will not be prepared to program or troubleshoot any device. On completion of the course, the individual should have knowledge of the current status of implant technology including device choices and options, candidacy issues including medical, audiological, and habilitative aspects, as well as the steps involved in the candidacy process. This level of knowledge should enable the student to provide initial counseling to prospective implant patients and make better referrals to cochlear implant centers.  
(8 weeks/2 credits)

### **AUD 782 Audiological Management in Heritable Syndromes**

This course covers the wide diversity of genetic syndromes wherein hearing loss and/or aberrant audiovestibular system (AVS) function is involved, including those conditions in which AV compromise may not be the primary or most obvious symptom. Current genetic concepts and terminology are provided together with discussion of certain organ systems' association with AVS impairments/deficits. Further material includes insights for expanding professional patient bases; the need to develop familiarity with when and how to access the requisite tests available for genetic disorders; and the audiologists' role and responsibilities in identifying and managing these conditions.  
(8 weeks/2 credits)

### **AUD 790 Pediatric Audiology**

This module is designed to introduce students to the fundamentals of Pediatric Audiology. This 8 week module includes an introduction to ear embryology, developmental theory and milestones, identification and intervention of newborn hearing loss, appropriate use of diagnostic tests, and the development of a parent resource packet. In addition, skills and knowledge will be gained which will be essential in the use of family counseling and access to multidisciplinary resources.  
(8 weeks/2 credits)

### **AUD 800 Auditory/Vestibular Pathologies**

Detailed coverage of auditory and vestibular pathologies and their relation to structure and

function. Case studies used to show audiological patterns associated with various disorders. Includes coverage of the basic otologic/medical evaluation and surgical and medical treatments of auditory/vestibular conditions. (8 weeks/2 credits)

### **AUD 802 Radiography in Auditory/Vestibular Diagnosis**

Understanding imaging techniques for evaluation of auditory and vestibular pathologies and the correlation with audiological data, including CT scans, MRI, fMRI and PET. (4 weeks/1 credit)

### **AUD 810 Pharmacology and Ototoxicity**

A basic introduction to pharmacology. The effects of medications on the auditory and vestibular systems, ototoxic medications and monitoring protocols will also be covered. (8 weeks/2 credits)

### **AUD 815 Health Informatics for Audiology (Required course for all students)**

This module will provide an introduction to the online learning system used for the academic program as well as valuable information about the use of computer technology for lifelong learning and in your office. Topics will include an orientation to navigating and using tools in the online courses, computer basics, network and internet fundamentals, computer ethics, a helpful Powerpoint tutorial and more. Essential student links and instructions will be provided to assist students throughout their online programs.  
(4 weeks/1 credit)

### **AUD 820 Audiological Counseling**

Techniques of counseling with an emphasis on dealing with the effects of hearing loss on individuals and their families. (8 weeks/2 credits)

### **AUD 823 Communication Training**

Consumer education and aural rehabilitation. Topics to include teaching the patient and the family listening and helping skills, as well as other methods to enhance communication and sound awareness through individual or group communication training sessions. (4 weeks/1 credit)

### **AUD 824 Early Hearing Detection and Intervention**

This course provides a comprehensive introduction to the role of the audiologist in Early Hearing

Detection and Intervention (EHDI) programs. Special emphasis will be placed on the importance of audiological involvement in all organizational and administrative aspects of such programs. Topics include: legislative mandates, screening protocols and procedures, organization and administration of EHDI programs, data management and tracking, program evaluation and quality improvement. Students enrolling in this class should have a good understanding of ABR and OAE procedures. (4 weeks/1credit)

### **AUD 825 Educational Audiology**

Educational audiology has become recognized as a specialty area in our profession, since the responsibilities of an educational audiologist differ significantly from those of a clinical audiologist. Like the clinical audiologist, the educational audiologist must be familiar with terminology and concepts related to the screening, diagnosis and remediation of hearing loss. Unlike the clinical audiologist, however, the educational audiologist must be prepared to deal with overwhelming numbers of children with diverse needs, usually with insufficient support, equipment, money and staff to deal with those needs. Legislative mandates have increased the need for educational audiology services in the schools, but the number of educational audiologists is still not sufficient to provide the level of services our children deserve. Increasingly, audiologists are being approached to provide contractual services to local school districts. At the conclusion of this course you will have a better understanding of the role of the educational audiologist and perhaps be interested in considering educational audiology as a component of your practice. (8 weeks/2 credits)

### **AUD 827 Classroom Acoustics and Noise Abatement**

Application of noise exposure control through measurement and analysis of noise, reduction of noise and reverberation and counseling educators and patients on sound containment in school, home and work environments. To include discussion of the Acoustical Society of America's acoustics criteria and the Americans with Disabilities Act. (4 weeks/1 credit)

### **AUD 828 Prevention of Hearing Loss and Disability**

Topics to be covered include recognizing dangerous levels of sound, screening/testing industrial or at-risk populations, recommending and evaluating hearing protection devices. Focus is on OSHA, NIOSH, and other regulations, as well as Worker's Compensation issues. (4 weeks/1 credit)

### **AUD 831 Vestibular Evaluation Procedures**

Assessing disorders of the vestibular system. Focusing on differential diagnosis of pathologies using case history information, electronystagmography, posturography, rotation testing and other current techniques. (8 weeks/2 credits)

### **AUD 832 Vestibular Rehabilitation**

Recommendations and treatment procedures for patients with balance disorders. Topics include medical referrals; surgery; medication; canalith repositioning; and adaptation, substitution and combined therapeutic strategies. (8 weeks/2 credits)

### **AUD 836 Practice Development I: Business Planning & Accounting**

Private practice models and business plan design. This module covers short- and long-range business planning, general accounting practices, and development and analysis of profit and loss statements. (8 weeks/2 credits)

### **AUD 837 Corporate and Legal Aspects of Practice**

A study of basic business structures and the economic and regulatory aspects of healthcare practice. Other topics include advocacy as it applies to licensure, scope of practice and reimbursement. (4 weeks/1 credit)

### **AUD 841 Practice Development II: Marketing and Advertising**

Internal and external marketing. Development and implementation of periodic marketing activities and monitoring the effectiveness of the activities. (8 weeks/2 credits)

**AUD 842 Professional Relations and Referrals**

Topics to include intraprofessional and interprofessional relations, appropriate referral methods, report writing, and follow-up on treatment recommendations and referrals.

(4 weeks/1 credit)

**AUD 846 Practice Development III: Personnel Management**

This module is designed to present styles of organization and management. Topics will include interviewing, hiring, evaluating, and guiding staff.

(8 weeks/2 credits)

**AUD 847 Risk Management and Documentation**

This module provides an examination of risk management as it applies to daily business practices as well as professional liability. Topics include informed consent, regulatory compliance, proper methods of documentation, auditing and professional liability insurance. (4 weeks/1 credit)

**AUD 848 Introduction to Continuous Quality Improvement**

This module provides an examination of the evolution of quality management in health care and an introduction to current quality management methodologies. Topics include continuous quality improvement, defining quality, measuring quality and standard setting organizations.

(4 weeks/1 credit)

**AUD 851 Professionalism I: Ethics**

This module will include discussion of current issues in the profession, confidentiality, ethical practices and currency of knowledge and skills.

(4 weeks/1 credit)

**AUD 852 Professionalism II: Leadership and Service**

Discussion of the organization and function of professional associations, activities which serve the professional community, and service to the public.

(4 weeks/1 credit)

**AUD 890 The Aging Auditory System**

This module is designed to present current knowledge concerning aging effects in the human auditory system. Comparative data will be used to illustrate presumed mechanisms in humans. This approach will trace the changes at the periphery

through the central nervous system and correlate it with behavior whenever possible. In addition this module will cover general theories/concepts of the aging process, demography of the aging population, healthcare financing, ethical and professional issues and the functioning of the geriatric healthcare team. Being mindful of the physical substrate of the older listener will aid the clinician in providing effective habilitation. (8 weeks/2 credits)

**AUD 895 Investigative Audiology**

The exceptionally broad use of hearing in modern cultures and societies gives rise to diverse questions from many quarters. Industries may inquire about the protection of worker hearing. Manufacturers are interested in product liability control and will ask if their products are dangerously loud. Various jurisdictions are interested in curbing community (environmental) noise. Litigants choose to proffer claims for hearing impairment due to various alleged causes. Personal safety depends a great deal upon the ear and hearing, so we may be asked to evaluate acoustical warning signals. A well-prepared audiologist will know how to deal with these, and other, related questions. An additional structure within this module involves the legal process including discussions of appropriate clinical work ups of hearing impairment claims; testimony styles; and techniques of value to the testifying witness. (4 weeks/1 credit)

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