

Doctor of Audiology Transitional Degree Program

Distance Education for Practicing Audiologists



Au.D.

Curriculum Guide

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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 (indicated in parentheses following the description). Credits 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

This module is designed to introduce students to the professional roles and responsibilities of a variety of members of the healthcare delivery team. An understanding of the function of each of the different types of healthcare professionals is valuable when students work with and practice as members of a professional healthcare team. Particular emphasis will be placed on those health professions that are professionally prepared at A.T. Still University of Health Sciences, and will include an orientation to the history and philosophy of osteopathic medicine upon which the institution is founded.

This module will not address the study of audiology specifically, but will concentrate on what audiology can learn from the histories, philosophies, experiences, and evolutions of other professions. In addition, since this is an early offering in the curriculum, this module will also continue to build on what you have learned so far regarding the use of interactive computer-based media as an educational delivery strategy, including the further development of web-searching skills.

(4 weeks/1 credit)

AUD 702 Auditory and Vestibular Neuroanatomy and Neurophysiology

The foundations of audiologic diagnostic and therapeutic measures are based upon an understanding of the anatomy and physiology of the nervous system. This module provides a study of the development of the nervous system, the structure and function of the peripheral nervous system and the central nervous system, neurovasculature, and in-depth coverage of the audiovestibular system.

(8 weeks/2 credits)

AUD 726 Infection Control

This course will cover in-office infection control procedures for audiologists, including 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

This module is designed to teach students about ear canal anatomy and function, as well as, techniques in 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 Advanced Acoustic Immittance

Acoustic immittance measures provide noninvasive evidence of the normalcy of the middle ear system and evidence of pathology, which may require medical intervention. Multi-frequency and multicomponent tympanometry are useful tools for identifying mass or stiffness dominated systems that are consistent with pathology. The advanced tympanometry module provides a study of tympanometric measures for use in the assessment of tympanic membrane abnormalities, ossicular chain pathology, otitis media, neonatal hearing assessment, and aging of the middle ear system. The goal of this module is to provide the advanced clinical audiologist with knowledge and skills to pursue additional audiologic information through the use of multi-frequency tympanometry, multicomponent tympanometry, acoustic reflexes and acoustic reflex decay for the diagnosis and rehabilitation of their patients. *(4 weeks/1 credit)*

AUD 737 Otoacoustic Emissions

This course presents 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 are discussed. *(4 weeks/1 credit)*

AUD 745 Introduction to Auditory Evoked Potentials

This 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 or Early Latency AEP measurements and their clinical application. This module will cover cochlear microphonics and the summing potential, electrocochleography (ECochG), the auditory brainstem response (ABR), and the auditory steady state response (ASSR). Understanding diagnostic applications and basic interpretation of test results and their relation to neuroanatomy and physiology of the auditory system will be emphasized. Access to ABR equipment for the assignments/practice with various test protocols is beneficial but not required. *(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 (AEP) 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, and current uses of ASSRs and cortical potentials in the investigation of sensory-neural hearing loss, auditory processing disorders, and aging. The primary goal of this module is to provide the advanced clinical audiologist with knowledge and skills to pursue additional audiologic information through the use of AEPs for the diagnosis and rehabilitation of their patients. The secondary goal is to introduce AEP applications that have clinical utility, but are at present used primarily for auditory research purposes. Access to evoked potential equipment is highly recommended but not required for this course. *(8 weeks/2 credits)*

AUD 750 Specialized Electrophysiological Evaluations and Intraoperative Neurophysiological Monitoring

Specialized electrophysiological procedures and intraoperative monitoring explores the importance of intraoperative neurophysiological monitoring (IONM), the responsibilities required, and the role of the audiologist as a surgical team member. The course addresses various IONM modalities, the surgeries that rely on monitoring, anatomy and physiology, terminology required for accurate monitoring, the effect of anesthesia on IONM, and new advances in the profession. *(8 weeks/2 credits)*

AUD 751 Assessment of Auditory Processing

Assessment of (central) auditory processing (AP) and identification of auditory processing disorder (APD) in children and adults is a systematic and multidisciplinary process. The assessment process includes the use of case history, questionnaires and observation forms, behavioral speech audiometric tests, electroacoustic and electrophysiologic tests. Prerequisites to the course include a basic understanding of the anatomy and physiology of the central auditory nervous system (CANS) and electrophysiologic test procedures. This module is designed to provide students with an understanding of the auditory processing assessment process, with primary emphasis on the pediatric population. *(8 weeks/2 credits)*

AUD 752 Treatment of Central Auditory Processing Disorders

This module includes anatomy and physiology of the central auditory nervous system (CANS) as it relates to

normal and disordered processing. Students will use this knowledge to determine appropriate counseling and remediation for individuals demonstrating auditory processing problems and their families. Included in this module, the student will learn efficacious interventions related to central auditory processing disorder treatment and management including but not limited to manipulating the acoustic environment, fitting an assistive device and instituting an auditory training regimen. *(8 weeks/2 credits)*

AUD 763 Hearing Aid Verification and Troubleshooting

This module is designed to introduce students to hearing aid measurement science, various hearing aid measures and methods for verifying appropriate hearing aid fittings. The topics include a basic primer on real ear measurements and tests to be performed in a hearing instrument test box. Skills and knowledge will be gained which will be essential in the validation and verification of hearing aid fittings, as well as hearing aid troubleshooting. This course explores the science and the art of fitting amplification on hearing impaired individuals with the goal of achieving acceptance of amplification by the patients we serve. *(8 weeks/2 credits)*

AUD 767 Assistive Listening Devices

This course is intended to provide students with the background and tools necessary to service the hearing assistance technology needs of deaf and hard-of-hearing individuals. The class will explore a variety of levels at which the audiologist may wish to provide these services. *(8 weeks/2 credits)*

AUD 771 Advanced Hearing Aid Technology: Part One

This course is designed to enable audiologists to be conversant in current hearing aid technology, focusing on the chief components that are responsible for understanding hearing aids and their use. A solid knowledge base of hearing aids and their development will be built by relating historical perspectives to current trends in amplification. *(8 weeks/2 credits)*

AUD 772 Advanced Hearing Aid Technology: Part Two

Focus is on understanding essential major hearing aid developments and how they relate to current fitting approaches. Focus is on compression, directional microphones, digital technology, and hearing aid

selection and uses, analysis, and performance of hearing aids. Content may change as developments dictate. Individuals taking this course are expected to have a firm knowledge of hearing aids. *(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 nor will they be a "cochlear implant audiologist." Our goal is to provide a level of knowledge to audiologists to enable the student to provide initial counseling to prospective implant patients and make better referrals to cochlear implant centers. On completion of the course, the individual should have an understanding of cochlear implants, candidacy and evaluation issues including medical, audiologic, and rehabilitative aspects, postoperative follow-up including programming, communication options and outcomes as well as the current and future trends. Although it is expected that this course will impart a tremendous degree of knowledge upon students, completing this course is not sufficient for expertise in cochlear implants. *(8 weeks/2 credits)*

AUD 782 Audiological Management in Heritable Syndromes

This course covers the wide diversity of genetic syndromes where hearing loss and/or aberrant audiovestibular system (AVS) function is involved, including those conditions in which audiovestibular compromise may not be the primary or most obvious stigmata. Review of basic inheritance patterns (elementary genetics), including Mendelian transmission together with pertinent embryology, is covered. Current genetic concepts and terminology are provided together with discussion of certain organ systems' association with audiovestibular system impairments/deficits. Further material includes appropriate professional language in syndromology and audiology, insights for expanding professional patient bases and the need to utilize our audiovestibular probes to best highlight the audiovestibular deficits seen in conjunction with the patient's particular syndrome. *(8 weeks/2 credits)*

AUD 790 Pediatric Audiology

This module is designed to introduce students to the fundamentals of pediatric audiology. This eight-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

This course provides detailed coverage of auditory and vestibular pathologies and their relation to structure and function. Case studies are used to show audiologic 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

This module is designed to help students gain an understanding of imaging techniques used for the evaluation of auditory and vestibular pathologies. Neurodiagnostic imaging data from CT scans, MRI, etc., will be correlated with audiologic findings when possible. *(4 weeks/1 credit)*

AUD 810 Pharmacology and Ototoxicity

This course provides 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

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, 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

This module is designed to introduce students to the fundamental principles, contemporary theories, and applied techniques of the counseling process. Special emphasis will be placed on issues and practices related to the effects of hearing loss on individuals of all ages and their families. The role of counseling across the

scope of audiologic practice, including diagnostic and rehabilitative activities will be discussed. *(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 audiologic 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/1 credit)*

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 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

This module provides students with a review of the anatomy and physiology of the peripheral and central vestibular systems, as well as an overview of the human equilibrium system. This module will provide students with a comprehensive overview of vestibular assessment procedures, focusing on gathering an appropriate case history, ENG/VNG, non-computerized postural testing, and non-computerized rotational testing. Case studies will be utilized to provide an enhanced learning experience. *(8 weeks/2 credits)*

AUD 832 Vestibular Rehabilitation

This module will introduce audiologists to the basic principles of vestibular rehabilitation therapy (VRT). The module will provide students with an overview of the philosophical bases to vestibular rehabilitation and will provide specific symptom-based strategies of treating identifiable vestibular dysfunctions. The content will have a practical approach to allow audiologists to develop knowledge and skills for use of VRT within their scope of practice. *(8 weeks/2 credits)*

AUD 833 Advanced Vestibular Evaluation Procedures

This module is designed to provide students with an understanding of specialized/advanced vestibular diagnostic tools. Topics will be focused on rotary chair testing, computerized dynamic posturography, VEMP, subjective visual vertical testing, correlation of results with ENG/VNG, and common errors in interpretation. Case studies will be utilized to provide an enhanced, "real world" learning experience. *(8 weeks/ 2 credits)*

AUD 836 Practice Development I: Business Planning & Accounting

This course focuses on business development and accounting as it applies to audiology. It is an introductory course designed to help you make the decisions you will need to make in setting up an audiology practice. It is a practical course that encourages you to take chances, make mistakes and

enjoy your successes without having to put up real cash. Topics covered will include private practice models, business plan design, 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, 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

This module is designed to explore the marketing of hearing care services and hearing aids to the public. This module includes a review of the hearing aid industry and a survey of present hearing aid marketing efforts by industry and audiology practices. Students will generate internal and external marketing strategies and evaluate the effectiveness of different marketing media. They will evaluate marketing strategies and generate appropriate marketing budgets. In addition, each student will generate a marketing plan for his/her own practice. *(8 weeks/2 credits)*

AUD 846 Practice Development III: Personnel Management

This module introduces students to the basic concepts and ideas of personnel management, also known as human resource management or practice management. Concepts will be discussed as they apply to the audiologist as an employee, manager, or private practice owner. This course includes information on designing job descriptions, hiring and firing employees, training, guiding, and evaluating staff in a professional audiology office or department with an emphasis on employment law. *(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 healthcare and an introduction to current quality management methodologies. Topics include continuous quality improvement, defining quality, measuring quality and standard-setting organizations. The course focuses on the core aspects of quality management that a clinician should understand to initiate or participate in quality assurance or improvement efforts. *(4 weeks/1 credit)*

AUD 851 Professionalism I: Ethics

This module will examine the nature and evolution of codes of ethics. Class discussions and reading materials will emphasize ethical issues as they relate to the professional practice of audiology. Topics will include numerous contemporary issues in audiology and how they relate to codes of ethics from AAA, ADA and ASHA. In addition to the issues discussed, a framework for ethical decision-making will be developed. Students will be expected to demonstrate an understanding of the issues and ethical implications discussed through class discussions, written assignments, and a final examination. *(4 weeks/1 credit)*

AUD 852 Professionalism II: Leadership and Service

This module will provide a forum for discussion of the organization and function of professional associations, activities which serve the professional community, and service to the public. Discussion about leadership is also a component of this module. *(4 weeks/1 credit)*

AUD 853 Preceptor Training

This preceptor training module provides instruction in adult learning styles, how to set goals and provide constructive feedback, the development of professionalism, and strategies to facilitate critical thinking and case management skills in the trainee. Audiologists attain mainly theoretical knowledge in the academic classroom and clinical knowledge and skills in the clinical setting. Audiologists who are going to serve as preceptors for audiology students also need to learn concepts and skills related to the supervisory process and how to be a mentor and teacher in the clinical setting. The primary goal of this module is to provide the supervising audiologist with knowledge and skills to be a successful preceptor for audiology students and/or a supervisor for audiology employees. The concepts covered in this module will be useful for audiologists who are involved in clinical training with

audiology students and new employees, as well as audiologists in supervisory positions who cross-train audiology staff for new roles, evaluate performance of staff, and provide feedback to supervisees. *(8 weeks/2 credits)*

AUD 890 The Aging Auditory System

This module is designed to present current knowledge of the changes associated with aging from the peripheral to the central human auditory system. It covers a study of the anatomical, physiological, psychological, and social factors that can affect auditory aging and will aid the clinician in providing effective rehabilitation to the older adult. It also includes a review of contemporary research on this topic. *(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)*

For further information pertaining to admissions policies and procedures, please visit us at www.atsu.edu.

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Rev. 9/2012