



# **Doctor of Audiology Post-Professional program**

Online education for practicing audiologists

Curriculum Guide

### **Course descriptions**

Courses of instruction for the Post-Professional Doctor of Audiology distance education program allow specific areas of knowledge and clinical practice to be defined and presented in concise units. Each course is four to 10 weeks in length (indicated in parentheses following the description). Credits assigned to audiology courses are one and a half semester credit hours for a four-week course and four semester credit hours for a 10-week course. The course descriptions, course durations, and related information are subject to change.

### **AUDP 7000 Ethics, Leadership, and Professionalism**

This course begins with an introduction to the online learning system used for this academic program. Students will be instructed in online navigation tools, computer basics, and academic resources. Students will then be introduced to the professional roles and responsibilities of a variety of members of the healthcare delivery system and provided an orientation to the history and philosophy of osteopathic medicine upon which A.T. Still University is founded. In addition, the course will examine contemporary ethical issues in audiology and provide a framework for ethical decision-making. Topics also include information regarding the organization and function of professional associations, activities that serve the professional community, service to the public, and the development of leadership skills.

*(10 weeks/4 credits)*

### **AUDP 7100 Neuroscience and Neuroimaging**

The foundations of audiologic diagnostic and therapeutic measures are based upon an understanding of the anatomy and physiology of the nervous system. This course 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. Students will 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.

*(10 weeks/4 credits)*

### **AUDP 7200 Pathologies of the Auditory and Vestibular System**

This course provides detailed coverage of auditory and vestibular pathologies and their relation to structure and function. Course materials will present information about anatomy and physiology of the human ear, techniques in visualization and examination of the ear (including instrumentation), and cerumen management. Case studies are used to show audiologic patterns associated with various disorders. Topics will cover the basic otologic/medical evaluation and surgical and medical treatments of auditory/vestibular conditions.

*(10 weeks/4 credits)*

### **AUDP 7300 Pharmacology and Ototoxicity**

This course is designed to introduce students to the basic concepts and principles of pharmacology. Drug development, drug regulations, pharmacokinetics, pharmacodynamics, and basic drug classifications will be covered. In addition, information will be presented regarding drugs used in the diagnosis and treatment of hearing and balance disorders, drugs that affect the function of the audiovestibular systems, and the concept of polypharmacy. The course also covers ototoxicity (cochleotoxicity, vestibulotoxicity, and neurotoxicity) and ototoxic monitoring. Students will gain an appreciation for the role of audiologists related to understanding patients' needs, behaviors, and clinical outcomes associated with medication use, as appropriate for a professional committed to whole person healthcare.

*(10 weeks/4 credits)*

### **AUDP 7500 Genetics and Hearing Loss**

This course covers the wide diversity of genetic conditions and syndromes that involve hearing loss and/or aberrant audiovestibular system function. Review of basic inheritance patterns, 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. Additional topics include appropriate professional language in syndromology, genetic testing, genetic counseling, and the need to utilize audiovestibular probes to best highlight the audiovestibular deficits seen in conjunction with the patient's particular genotype.

*(10 weeks/4 credits)*

### **AUDP 8100 Vestibular Evaluation and Management**

This course is designed to provide students with in-depth coverage of the anatomy and physiology of the central and peripheral vestibular structures as well as the human equilibrium system.

Vestibular assessment procedures including obtaining an appropriate case history, principles of ENG/VNG, non-computerized postural stability testing, and non-computerized rotational testing will be addressed. Additionally, students will be introduced to vestibular rehabilitation techniques focusing on canalith repositioning maneuvers for benign paroxysmal positional vertigo (BPPV). Case studies will be utilized to enhance the learning experience. Topics include infection control procedures as they relate to vestibular evaluation and management.

*(10 weeks/4 credits)*

### **AUDP 8110 Advanced Vestibular Evaluation and Management**

This course is designed to provide students with a detailed understanding of specialized vestibular diagnostic tools. Topics will include rotational chair testing, computerized dynamic posturography (CDP), vestibular evoked myogenic potentials (VEMP), video head impulse testing (VHIT), and subjective visual vertical (SVV) testing. Test results will be correlated with ENG/VNG and common errors in interpretation will be covered. The philosophical bases for vestibular treatment will be addressed, providing specific symptom-based strategies for treating identifiable vestibular dysfunction. Students will be instructed on effective administration of vestibular rehabilitation therapy (VRT) protocol and accurate evaluation of treatment efficacy. Content delivery will utilize a practical approach to allow audiologists to develop knowledge and skills for provision of vestibular treatment within their scope of practice. Topics include infection control procedures as they relate to advanced vestibular evaluation and management.

*(10 weeks/4 credits)*

### **AUDP 8200 Amplification: Assessment, Fitting, and Verification**

A solid base of knowledge regarding hearing aid technology, concepts and functions will be built by relating historical perspectives to current trends in amplification. Major hearing aid developments and how they relate to current fitting approaches will be covered. Students will explore hearing aid measurement science and methods for verifying and validating appropriate hearing aid fittings, as

well as hearing aid trouble shooting techniques. In addition, students will study ear canal acoustics, ear mold impressions, and the evolving array of fitting options. Topics include infection control procedures as they pertain to amplification fitting and assessment procedures.

*(10 weeks/4 credits)*

### **AUDP 8210 Implantable Devices**

This course is an introduction to cochlear implants, boneanchored hearing aids, auditory brainstem implants, other implantable devices, and future trends. The goal is to provide a level of knowledge enabling the student to conduct initial counseling to prospective implant patients and make appropriate referrals to implant centers. Upon completion of the course, the student will have an understanding of candidacy, implant surgeries, postoperative follow-up, rehabilitative aspects, programming, communication options, and outcomes. Topics include infection control procedures as they relate to implantable devices.

*(10 weeks/4 credits)*

### **AUDP 8220 Counseling, Aural Rehabilitation and Assistive Devices**

This course is designed to explore current theories and practices related to the fundamental principles of counseling as well as individual and group aural rehabilitation. The counseling aspect of this course will include the psychological and psychosocial effects of hearing loss on individuals of all ages, significant others, and their families and communities. The aural rehabilitation aspect will focus on the use of self-assessment tools, communication strategies for individuals and family members, and speech-reading techniques to meet rehabilitative needs. Group discussion will address cost effective options for the delivery of aural rehabilitation in clinical settings. This course also will provide students with the background and tools necessary to counsel, select, and configure assistive technology. The class will explore a variety of levels at which the audiologist may wish to provide these services.

*(10 weeks/4 credits)*

### **AUDP 8300 Electrophysiology: Scientific Foundations and Clinical Applications**

This course is designed to cover principles of various electrophysiological measurements in the area of auditory evoked potentials (AEPs). Understanding diagnostic applications and interpretation of test results and their relation to neuroanatomy and physiology of the auditory system will be emphasized. This course provides a study of clinical tools for use in the differential

diagnosis of cochlear versus neural function, a diagnostic test battery for auditory neuropathy, and current uses of auditory steady-state response (ASSR) and cortical potentials in the investigation of sensory-neural hearing loss, auditory processing disorders, and aging. In addition, course material will explore the importance of intraoperative neurophysiological monitoring (IONM), the responsibilities required, and the role of the audiologist as a surgical team member. Topics include infection control procedures as they relate to electrophysiological practices.

*(10 weeks/4 credits)*

#### **AUDP 8400 Global Healthcare and Audiology**

This course promotes guided discussion regarding current global hearing healthcare practices, areas of need and advocacy for effective policies and services. Telehealth in audiology and interprofessional collaboration will be explored as potential opportunities for improving access to hearing healthcare services.

*(4 weeks/1.5 credits)*

#### **AUDP 8410 Advanced Acoustic Immittance**

This course provides a study of immittance measures for the assessment of tympanic membrane abnormalities, ossicular chain pathology, otitis media, neonatal hearing assessment, and aging of the middle ear system. The goal is to provide the advanced clinical audiologist with knowledge and skills to pursue additional audiologic information through the use of multifrequency tympanometry, multicomponent tympanometry, wideband immittance, acoustic reflexes, and acoustic reflex decay for patient diagnosis and management.

*(4 weeks/1.5 credits)*

#### **AUDP 8420 Otoacoustic Emissions: Scientific Foundations and Clinical Applications**

This course presents the origin and classification of otoacoustic emissions. In depth coverage is provided related to test equipment, procedures, interpretation of results, and use of otoacoustic emissions in screening and in differential diagnosis of auditory disorders.

*(4 weeks/1.5 credits)*

#### **AUDP 8430 Tinnitus and Hyperacusis: Theories, Evaluation, and Treatment**

This course is designed to explore the fundamental principles and clinical management of tinnitus and/or hyperacusis. Course material includes information concerning epidemiology, tinnitus mechanisms, measurements and treatments, as well as resources for audiologists,

patients, and their families. A literature review and discussion of studies related to misophonia will also be addressed. Case examples will be discussed, illustrating treatment options.

*(4 weeks/1.5 credits)*

#### **AUDP 8440 Occupational and Environmental Hearing Conservation**

This course is designed to examine the principles and practices of occupational, educational and environmental hearing conservation. Topics include determination of noise exposure, regulatory and advisory agencies and standards, classroom acoustics, hearing conservation programs in occupational and school settings, noise abatement, and hearing protection devices. The course also includes a supplemental section presenting an overview of the principles and practices of forensic audiology.

*(4 weeks/1.5 credits)*

#### **AUDP 8500 Pediatric Audiology: Identification through Rehabilitation**

This course covers embryological development of the ear, developmental milestones, identification and intervention for newborn hearing loss, appropriate use of diagnostic tests, and the utilization of appropriate resources. Skills and knowledge will be gained in the use of family counseling and access to multidisciplinary resources. Early Hearing Detection and Intervention (EHDI) programs and the roles of educational audiologists will be explored. Topics include legislative mandates, screening protocols and procedures, organization and administration of programs, data management and tracking, program evaluation, and quality improvement. Topics include infection control procedures as they relate to pediatric practice.

*(10 weeks/4 credits)*

#### **AUDP 8600 Assessment and Management of (Central) Auditory Processing Disorders**

This course examines the assessment of (C)APD and identification of auditory processing disorders in children and adults as a systematic and multidisciplinary process. The use of case histories, questionnaires, observation forms, audiometric tests, and electrophysiologic measures will be explored. Students will learn efficacious interventions related to (C)APD treatment and management, including but not limited to manipulating the acoustic environment, fitting of appropriate devices, and instituting an auditory training regimen.

*(10 weeks/4 credits)*

**AUDP 8700 Hearing Loss and Healthy Aging**

This course is designed to address issues concerning the effects of aging on hearing. Changes in the auditory system as a function of age, the impact on patient function and healthy aging will be emphasized. The course will provide information on management of hearing loss in the aged population and strategies for community collaboration to increase awareness for appropriate hearing healthcare.

*(10 weeks/4 credits)*

**AUDP 8800 Practice Development and Marketing**

This course involves the study of basic business structures, practice development, marketing, and the economic and regulatory aspects of healthcare practice. Topics covered include private practice models, business plan design, short- and long-range planning, general accounting practices, development and analysis of profit-and-loss statements, and marketing strategies. Students will have the opportunity to generate marketing strategies and budgets, as well as evaluate the effectiveness of different marketing media. Facilitated discussions will explore topics such as risk management, auditing, professional liability, regulatory compliance, and proper methods of documentation as practiced across the globe.

*(10 weeks/4 credits)*

**AUDP 8810 Personnel Management**

This course introduces students to the concepts and ideas of personnel management, also known as human resource management or practice management. This course includes information on designing job descriptions; hiring and firing employees; and training, supporting and evaluating staff in a professional audiology practice. Audiologists who are going to serve as preceptors for audiology students need to learn concepts and skills related to the supervisory process and how to be a mentor in the clinical setting. Preceptor training will be discussed, providing information on adult learning styles, goal setting, constructive feedback, development of professionalism and strategies to facilitate critical thinking and case management skills. Facilitated discussions will explore personnel management topics as practiced across the globe.

*(10 weeks/4 credits)*

**AUDP 9400 and 9410 Culminating Case Experience I and II (CCE-I and CCE-II)**

These courses represent the culmination of the clinical doctoral degree program and require students to demonstrate the integration and clinical application of the knowledge acquired throughout their individualized curriculum plans. In-depth case studies submitted by teaching faculty across the curriculum will be utilized. Student submissions will require critical thinking skills, use of appropriate professional and technical terminology, accurate interpretation of detailed case histories and clinical data, and presentation of relevant impressions and recommendations.

*(4 weeks/1.5 credits)*

For further information pertaining to admissions policies and procedures, please visit [atsu.edu](http://atsu.edu).

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