

# Doctor of Audiology

Entry-Level, Four-Year Degree Program

Curriculum Guide

# Au.D.

# DOCTOR OF AUDIOLOGY ENTRY-LEVEL PROGRAM CURRICULUM (Residential)

Information contained in this curriculum guide is subject to change.

## SEQUENCE OF COURSES

### QUARTER

Course Code Course Name Credit Hours

#### FIRST YEAR / Fall Quarter

AUD 510	Acquisition and Development of Communicative Skills	3
HS 511	Human Anatomy for Audiologists	4
AUD 513	Professional Roles and Responsibilities	1
AUD 514	Auditory Science	5
AUD 518	Audiological Observation	1
		14

#### FIRST YEAR / Winter Quarter

AUD 520	Neurology	4
AUD 521	Anatomy and Physiology of the Auditory-Vestibular System	4
AUD 523	Infection Control and Cerumen Management	2
AUD 524	Essentials of Audiology I	4
AUD 528	Audiological Observation II	1
		15

#### FIRST YEAR / Spring Quarter

AUD 530	Communication Methodology for Hearing Impaired Children	2
AUD 531	Embryology and Genetic Conditions	3
AUD 533	Acquired Auditory-Vestibular Disorders	3
AUD 534	Essentials of Audiology II	4
AUD 535	Speech Perception	4
AUD 538	Audiological Observation III	1
		17

#### FIRST YEAR / Summer Quarter

AUD 540	Pharmacology	3
AUD 545	Amplification I	4
AUD 546	Otoacoustic Emissions	3
AUD 548	Audiological Observation IV	1
		11

#### SECOND YEAR / Fall Quarter

AUD 611	Counseling in Audiology	3
AUD 614	Pediatric Audiology	4
AUD 615	Amplification II	4
AUD 616	Auditory Evoked Responses	4
AUD 618	Clinical Rotation I	2
		17

#### SECOND YEAR / Winter Quarter

HS 522	Research Methods and Design	3
AUD 620	Manual Communication I	1
AUD 621	Audiological Rehabilitation for Adults	3
AUD 624	Tinnitus: Evaluation and Treatment	3
AUD 626	Auditory Processing Disorders I	4
AUD 628	Clinical Rotation II	2
		16

#### SECOND YEAR / Spring Quarter

HS 532	Methods of Data Analysis	3
AUD 633	Practice Development I	3
AUD 636	Auditory Processing Disorders II	4
AUD 637	Vestibular Assessment & Treatment I	4
AUD 638	Clinical Rotation III	2
		16

#### SECOND YEAR / Summer Quarter

AUD 640	Manual Communication II (Elective)	(1)
AUD 644	Occupational and Environmental Hearing Conservation	4
AUD 645	Amplification III	4
AUD 648	Clinical Rotation IV	2
		10

#### THIRD YEAR / Fall Quarter

AUD 710	Basic Principles of Medical Imaging	2
AUD 711	Educational Audiology	3
AUD 717	Vestibular Assessment & Treatment II	3
AUD 718	Clinical Rotation V	6
		14

#### THIRD YEAR / Winter Quarter

AUD 722	Advances in Audiologic Care	2
AUD 723	Practice Development II	3
AUD 725	Amplification IV	3
AUD 728	Clinical Rotation VI	6
		14

#### THIRD YEAR / Spring Quarter

AUD 730	Speech and Language Disorders in Adults (Elective)	(3)
AUD 732	Screening and Monitoring Programs in Audiology	2
AUD 734	The Aging Auditory System	2
AUD 738	Clinical Rotation VII	6
		10

#### THIRD YEAR / Summer Quarter

AUD 743	Ethics and the Health Care Delivery System	3
AUD 748	Clinical Rotation VIII	6
		9

#### FOURTH YEAR / Fall Quarter

AUD 813	Professionalism and Leadership	2
AUD 819	Clinical Rotation IX	12
		14

#### FOURTH YEAR / Winter Quarter

AUD 822	Speech and Language Disorders in Children (Elective)	(3)
AUD 829	Clinical Rotation X	12
		12

#### FOURTH YEAR / Spring Quarter

AUD 834	Early Hearing Detection and Intervention (Elective)	(2)
AUD 839	Clinical Rotation XI	12
		12

#### FOURTH YEAR / Summer Quarter

AUD 849	Clinical Rotation XII	12
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## COURSE DESCRIPTIONS - (Residential)

\*Courses denoted with an asterisk may be delivered via web-based technology. There are a total of 213 quarter credit hours for the four-year program. Elective courses will be available through the audiology and other professional departments.

### AUD 510 Acquisition and Development of Communicative Skills

Detailed study into the normal development and acquisition of language, speech, and auditory behavior. (3 credits)

### AUD 513 Professional Roles and Responsibilities

Open and guided discussions and readings on what it means to be a "professional". The duties and responsibilities that define professionalism and not just the "rights and privileges thereunto appertaining" are a major discussion area. Includes a history of audiology and its ongoing development and evolution from a "masters level occupation" to a "doctoring profession". (1 credit)

### AUD 514 Auditory Science

A detailed study of acoustics, including properties of sound and sound measurement and analysis techniques. Psychometric methods and a study of the range of normal human perceptual abilities: intensity, frequency, and temporal resolution. (5 credits)

### AUD 520 Neurology

A study of the development, structure, and function of the central and peripheral nervous systems, including the autonomic nervous system. Blood supply, sensory and motor systems, pain mechanisms, receptors, reflex pathways, and consequences of lesions of the nervous system at various levels are also discussed. Includes laboratory requirement. (4 credits)

### AUD 521 Anatomy and Physiology of the Auditory-Vestibular System

Study of the structure and function of the Auditory-Vestibular System. (4 credits)

### AUD 523 Infection Control and Cerumen Management

Infection control procedures for audiologists, covering universal precautions, cleaning of tools and instruments and state and federal regulations. Techniques, tools, precautions, recommendations for referral and regulations regarding cerumen removal will be studied. (2 credits)

### AUD 524 Essentials of Audiology I

First of a two-course sequence covering otoscopic evaluation, pure tone air- and bone-conduction testing, and speech thresholds. Tuning fork tests, instrument calibration and analysis of

sensitivity/specificity functions will be covered. Includes laboratory requirement. (4 credits)

### **AUD 530 Communication Methodology for Hearing Impaired Children**

This course is designed to introduce students to a variety of communication systems, including Oral, Cued Speech, American Sign Language, Signed Exact English and additional variations. Reasons that families choose specific communication systems and the relative strengths and weaknesses of the various systems will be addressed. Aural rehabilitation approaches and methodologies will be covered with a focus on therapeutic aspects. Students will develop and implement aural rehabilitation lessons. (2 credits)

### **AUD 531 Embryology and Genetic Conditions**

This course covers embryologic development with emphasis on normal and abnormal or interrupted development. Genetic concepts and terminology will be covered together with information regarding the association of certain organ systems with audiovestibular system impairments. Material will also include information regarding genetic testing, genetic counseling, and the audiologist's role and responsibilities in identifying and managing these conditions. (3 credits)

### **AUD 533 Acquired Auditory-Vestibular Disorders**

Study of the acquired disorders affecting the auditory and vestibular system, both peripheral and central. Topics will include disorders of the conductive, sensory, neural, and central auditory and vestibular systems; their etiologies; and presentation of symptoms. Related examination findings and treatment options will be discussed. (3 credits)

### **AUD 534 Essentials of Audiology II**

This is the second in a two-course sequence. Includes detailed study of conventional audiometric techniques, focusing on speech audiometry, masking, difficult-to-test populations and immittance measures. Includes laboratory requirement. (4 credits)

### **AUD 535 Speech Perception**

The study of the acoustics of speech and a survey of models of speech perception and processing of speech. Includes laboratory requirement. (4 credits)

### **AUD 540 Pharmacology**

The effects of prescription and non-prescription drugs, environmental chemicals, and noise on the auditory-vestibular system. Focus is on basic pharmacology and the interaction of drugs and noise. The classes of medications used in routine clinical medical practice will be examined with emphasis on activity, mode of action, side effects, toxicity, and drug interactions. (3 credits)

### **AUD 545 Amplification I**

The history of hearing aids in the health care market. Past and current hearing aid components/acoustics and measurement characteristics will be discussed. Includes laboratory requirement. (4 credits)

### **AUD 546 Otoacoustic Emissions**

The origin and classification of otoacoustic emissions will be studied. Test equipment and procedures for obtaining otoacoustic emissions. Interpretation of results and uses of OAE

data in screening and differential diagnosis of auditory disorders. Includes laboratory requirement. (3 credits)

### **AUD 518, 528, 538 and 548 Audiological Observation I-IV**

Guided observations of audiologic activities. Students observe preparations for, administration of, and follow-up to clinical evaluations. Limited hands on experience will be included. AUD 518-538 includes Grand Rounds, a weekly discussion forum with faculty and students concerning topics related to the student's practicum experiences. (1 credit each course)

### **AUD 611 Counseling in Audiology**

An overview of the psychological impact of sensory deprivation, auditory impairment and vestibular impairment. Principles and techniques of the various methodologies of counseling will be covered with an emphasis on management of individuals with hearing and/or balance disorders. (3 credits)

### **AUD 614 Pediatric Audiology**

Study of the normal and abnormal development of auditory behavior in infants and children. Review of normal motor, cognitive, language, and psychosocial development. Will cover universal newborn hearing screening, identification audiometry, diagnostic audiometry, hearing aids, and counseling. Practical applications for the difficult-to-test child will be covered. Includes laboratory requirement. (4 credits)

### **AUD 615 Amplification II**

Selection, fitting, and adjustments of hearing aids. Understanding amplitude compression, characteristics, frequency compression technology, digital and programmable hearing aids, and specialized microphone configurations. Focus is on new cutting edge technology. Content to change as needed. Includes laboratory requirement. (4 credits)

### **AUD 616 Auditory Evoked Responses**

Detailed study into the principles and methods of evoked response testing. Techniques for performing EcochG and ABR. Interpreting results and the relation of data to neuroanatomy and physiology of the auditory system. Includes laboratory requirement. (4 credits)

### **AUD 620 Manual Communication I**

The purpose of this course is for students to familiarize themselves with a greater knowledge of the history, grammar, production and reception of American Sign Language (ASL). Students will build their ability to express and receive ASL vocabulary related to audiology for diagnostic assessments, audiologic management and descriptions of results. (1 credit)

### **AUD 621 Audiological Rehabilitation for Adults**

Topics include rehabilitation evaluation and use of self-assessment instruments; teaching the patient and family listening and helping skills, as well as other methods to enhance communication and sound awareness through individual or group communication; and meeting the rehabilitative needs of the aging population. (3 credits)

### **AUD 624 Tinnitus: Evaluation and Treatment**

An in-depth and critical review of the current and past research on the origins of tinnitus. Assessment techniques and the various treatment options available for remediation are compared and contrasted in detail. Includes laboratory requirement. (3 credits)

**AUD 626 Auditory Processing Disorders I**

First of a two-course sequence covering the assessment and management of auditory processing disorders. Topics in this sequence include differential diagnosis of auditory processing disorders through the use of case history, questionnaires, speech audiometric tests, non-speech tests and electrophysiologic measurements, and appropriate counseling and remediation for patients and their families. Includes laboratory requirement. (4 credits)

**AUD 633 Practice Development I**

Introduction to organizational management and underlying economic and regulatory factors influencing healthcare practice. Topics include a history of managed care, types of managed care organizations, risk and quality management, third-party reimbursement, compliance and other current topics. (3 credits)

**AUD 636 Auditory Processing Disorders II**

The second of a two-course sequence covering the assessment and management of auditory processing disorders. Topics in this sequence include differential diagnosis of auditory processing disorders through the use of case history, questionnaires, speech audiometric tests, non-speech tests and electrophysiologic measurements, and appropriate counseling and remediation for patients and their families. Includes laboratory requirement. (4 credits)

**AUD 637 Vestibular Assessment and Treatment I**

Assessing disorders of the vestibular system and the underlying anatomical and physiological bases. Focusing on differential diagnosis of the pathologies using ENG, VNG, VAT, posturography, sensory organization testing, rotational chair testing, vestibular evoked myogenic potentials and other techniques. Includes laboratory requirement. (4 credits)

**AUD 640 Manual Communication II (Elective)**

This elective will cover vocabulary building in sign language for case histories, general patient interactions and conversations. (1 credit)

**AUD 644 Occupational and Environmental Hearing Conservation**

The measurement of, effects of, and management of occupationally related hearing loss, recreational noise exposure and its sequela. Industrial and forensic audiology will be discussed in detail. OSHA, MSHA, and NIOSH regulations will be covered. Includes laboratory requirement. (4 credits)

**AUD 645 Amplification III**

Topics include bone anchored hearing aids, and middle ear, cochlear and brainstem implants. Includes laboratory requirement. (4 credits)

**AUD 618, 628, 638, and 648 Clinical Rotation I-IV**

Direct clinical observation and participation in aspects of audiological practices. AUD 618-638 includes Grand Rounds, a weekly discussion forum with faculty and students concerning topics related to the student's practicum experiences. (2 credits each course)

**AUD 710 Basic Principles of Medical Imaging**

Understanding imaging techniques for evaluation of auditory and vestibular pathologies and the correlation with audiologi-

cal data, including conventional X-Rays, CT scans, MRI, fMRI, and PET. (2 credits)

**AUD 711 Educational Audiology**

Comprehensive screening and management of individuals from birth through graduation from school in all educational environments who have listening and/or hearing difficulties. (3 credits)

**AUD 717 Vestibular Assessment and Treatment II**

The second of a two-course sequence covering assessment and treatment of vestibular disorders. This course will provide a continuation of vestibular assessment procedures followed by coverage of recommendations and treatment procedures for patients with balance disorders. Topics include medical referrals, medical treatment, surgery, canalith repositioning; vestibular rehabilitation and balance re-training (adaptation, substitution, and combined therapeutic strategies). Includes laboratory requirement. (3 credits)

**AUD 722 Advances in Audiologic Care**

Seminar to present current trends and topics important to the practice and profession of audiology. (2 credits)

**AUD 723 Practice Development II**

Private practice models and business plan design. This course covers short- and long-range business planning, general accounting practices, and development and analysis of profit and loss statements. Also covered will be internal and external marketing and the development and implementation of periodic marketing activities. (3 credits)

**AUD 725 Amplification IV**

Available technology to assist the hearing impaired in the home and in the community, including hard-wired devices, FM, induction loops, and infra-red. Selecting, dispensing, and evaluating assistive listening devices. (3 credits)

**AUD 730 Speech and Language Disorders in Adults\* (Elective)**

This course is designed to cover the theory and techniques for the differential diagnosis and treatment of speech and language disorders in adults. Students will learn to administer and interpret common diagnostic tests. Students will learn about treatment approaches for various disorders. Topics to be included are: traumatic brain injuries, aphasia, dysarthria, apraxia, dysphagia, voice disorders, and other neurological disorders such as Parkinson's. (3 credits)

**AUD 732 Screening and Monitoring Programs in Audiology\***

This course provides an in depth look at the design, implementation and management of universal newborn hearing screening, ototoxic monitoring, and intraoperative monitoring programs. (2 credits)

**AUD 734 The Aging Auditory System\***

A study of the normal and pathological changes associated with aging, covering anatomical, physiological, and psychosocial factors. (2 credits)

**AUD 743 Ethics and the Health Care Delivery System\***

Discussion of current issues in the profession of audiology, ethical proscriptions and practices, and additional topics to provide a basic understanding of health care delivery. (3 credits)

**AUD 718, 728, 738, 748 Clinical Rotation V-VIII**

Direct clinical participation in aspects of audiological practices. AUD 718-738 includes a weekly discussion forum in which each student will present case histories, case studies, case management and outcomes. (6 credits each course)

**AUD 813 Professionalism and Leadership\***

Discussion of the attributes of a profession, intra- and inter-professional relations, and referral methods. Also included will be discussion of the organization and function of professional associations, activities that serve the professional community and service to the public. (2 credits)

**AUD 822 Speech and Language Disorders in Children\* (Elective)**

This course is designed to cover the theory and techniques for the diagnosis and treatment of speech and language disorders in children from preschool through school-age. Students will learn to administer and interpret common diagnostic tests. Students will learn to develop remediation plans and implement the remediation lessons. (3 credits)

**AUD 834 Early Hearing Detection and Intervention\* (Elective)**

A comprehensive introduction to the role of the audiologist in Early Hearing Detection and Intervention (EHDI) programs. Topics include: legislative mandates, organization and administration of EHDI programs, data management and tracking, early intervention for infants and their families, transition to the educational system, as well as a comprehensive review of current literature related to newborn hearing screening, diagnosis, and amplification. (2 credits)

**AUD 819, 829, 839, and 849 Clinical Rotation IX-XII**

Full time clinical rotations providing the student with real-life audiologic and personal experiences, including involvement in patient diagnosis, treatment, and daily practice management. AUD 819-839 includes Grand Rounds, a weekly discussion forum with faculty and students concerning topics related to the student's practicum experiences. (12 credits each course)

**HEALTH SCIENCE COURSE DESCRIPTIONS (Core Courses)****HS 511 Human Anatomy for Audiologists**

A study of the human torso and cranial vault with emphasis on body systems, including the musculoskeletal, neurological, digestive, cardiopulmonary and endocrine systems. Prosected human cadaver laboratory is required. (4 credits)

**HS 522 Research Methods and Design**

Development and application of graduate level knowledge and skills related to research methods in health sciences. Completion of this course will assist the student in the development and completion of a research proposal including the identification of a problem, conducting a literature review, developing a hypothesis, designing a study and submitting an Institutional Review Board application. (3 credits)

**HS 532 Methods of Data Analysis**

Development and application of graduate level knowledge and skills regarding methodologies and statistics appropriate in descriptive and experimental research. Statistical software programs will be utilized to enhance student understanding and application of course material. (3 credits)

