# DIVISION OF SPEECH AND HEARING SCIENCES (GRAD)

The Division of Speech and Hearing Sciences in the School of Medicine's Department of Health Sciences provides academic and professional education for speech-language pathologists and audiologists. Programs of study are available at the master's level in speech-language pathology. Programs of study at the doctoral level are available in clinical audiology (Au.D.) and in research (Ph.D.). The study of speech and hearing requires knowledge in both normal and atypical speech, language, and hearing. The speech and hearing sciences curriculum provides a multifaceted learning environment, including classroom, laboratory, research, and clinical experiences. Three major tracks of study are possible within the curriculum: audiology, speech-language pathology, and speech and hearing sciences. There are three academic degree programs:

- A master's degree (M.S.) for entry-level clinical practice of speechlanguage pathology
- 2. A professional doctorate in clinical audiology (Au.D.)
- A Ph.D. in speech and hearing sciences for students with a background in speech-language pathology or audiology and related areas who desire a research degree

All of these programs are interdisciplinary in nature, involving clinical and research activities with other University departments and centers in addition to the Division of Speech and Hearing Sciences.

The entrance, academic, and residency requirements for the M.S. and Ph.D. degrees correspond to those of The Graduate School. Applicants to the Au.D. program follow the guidelines established by the School of Medicine for that degree program. Students enrolled in clinical degree programs (M.S. and Au.D.) are prepared to meet licensure and certification requirements necessary for the practice of speech-language pathology or audiology. Additional information describing the graduate programs in speech and hearing can be obtained on the division's website (http://www.med.unc.edu/ahs/sphs/).

Following the faculty member's name is a section number that students should use when registering for independent studies, reading, research, and thesis and dissertation courses with that particular professor.

### **Professors**

Elizabeth R. Crais (048), Communication Disorders in Infants, Identification/Intervention with Young Children with Autism Karen Erickson (045), Assessment of Reading and Writing, Literacy Instruction

John Grose (050), Psychoacoustics, Auditory Evoked Potentials Katarina L. Haley (072), Speech Perception and Production, Neurogenic Communication Disorders

**Melody Harrison**, Early Speech, Language, and Auditory Development in Children with Hearing Loss (Emeritus)

Lee McLean, Early Intervention and Language Development in Children (Emeritus)

Jackson Roush (058), Pediatric Audiology, Newborn Hearing Screening Stephanie Sjoblad (082), Aural Rehabilitation, Hearing Aids and Assistive Devices

**Linda R. Watson**, Language Disorders in Young Children, Autism, Emerging Literacy (Part-time)

David Yoder, Center for Literacy and Disability Studies (Emeritus)

### **Associate Professors**

Lisa Domby (025), Phonology, Bilingual Learning Adam Jacks (085), Aphasia Neurogenic Communication Disorders, Speech Science

**Cara McComish (077),** Early Identification of Autism and Pediatric Feeding

Feeding
Brenda Mitchell, Speech and Language Disorders, Mentorship
Nancy McKenna (062), Genetics, Hearing Disorders
Martha Mundy (053), Educational and Pediatric Audiology
Jessica Steinbrenner (093), Autism Research
Sharon W. Williams (074), Gerontology, Communication Disorders of
Older Adults, Multicultural Issues, Counseling

### **Assistant Professors**

**Lindsey Byom (095),** Traumatic Brain Injury **Philip Griffin (099),** Adult Hearing Aids, Balance and Vestibular
Assessment

**Penelope Hatch (090),** Literacy, Augmentative and Alternative Communication

Patricia Johnson (076), Hearing Aids and Assistive Devices
Hannah Siburt (096), Hearing Assistive Devices, Audiologic Rehabilitation

#### Instructors

Jamelle Salomon, Clinical Education Caitlyn Whitson, Adult Hearing Health

### **Adjunct Professors**

Emily Buss (009), Psychoacoustic Research David Zajac (063), Speech Aerodynamics, Developmental Aspects of Speech

### **Adjunct Associate Professors**

Margaret Dillon (092), Adult Cochlear Implants
Douglas Fitzpatrick, Anatomy and Physiology of the Auditory System
Debra R. Reinhartsen, Augmentative Communication, Low-Incidence
Disabilities

### **Adjunct Assistant Professors**

Clare Harrop, Neurodevelopmental Disorders

Jessica Kinard, Early Parent-Child Interactions and Communication
Outcomes

### **Adjunct Instructors**

Gina Vess, Voice and Voice Disorders

Kristen Brackett, Pediatric Dysphagia
Jamie Daut, Hearing Conservation
Andrea Dunn, Pediatric Audiology
Hannah Eskridge, Pediatric Aural Rehabilitation
Lynn Fox, Fluency Disorders
Brian Kanapkey, Dysphagia, Neurogenic Speech Disorders
English King, Adult Cochlear Implants
Lisa Woods Markley, Medical Speech-Language Pathology
Stephanie McAdams, Medical Speech-Language Pathology
Lisa Park, Pediatric Cochlear Implants
Marcia Rodriguez, Adult Neurogenic Disorders

### **SPHS**

#### **Advanced Undergraduate and Graduate-level Courses**

SPHS 400. Autism in Our Communities: An Interdisciplinary Perspective. 3 Credits.

Students have 30 hours of service-learning with individuals with autism at community partner sites. Class discussions introduce students to diverse topics related to autism spectrum disorder. This is an APPLES course.

#### **Rules & Requirements**

IDEAs in Action Gen Ed: HI-SERVICE.

Making Connections Gen Ed: EE- Service Learning.

**Grading Status:** Letter grade. **Same as:** EDUC 400.

#### SPHS 401. American Sign Language I. 3 Credits.

This American Sign Language (ASL) course includes topics on linguistic features, cultural protocols, and core vocabulary for students to function in basic ASL conversations on a variety of topics. All instructions and discussions in the classroom will be conducted in ASL. Students minoring in Speech and Hearing Sciences have priority in registering.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 402. American Sign Language II. 3 Credits.

Students in the Speech and Hearing Minor have priority in registering. The American Sign Language (ASL) course focuses on developing conversational skills on a variety of topics. All instructions and discussions in the classroom will be conducted in ASL.

#### **Rules & Requirements**

**Requisites:** Prerequisite, SPHS 401. **Grading Status:** Letter grade.

#### SPHS 510. Introduction to Communication Disorders. 3 Credits.

Introductory overview of communication disorders, including the nature of communication across the lifespan; cultural and linguistic issues that impact communication; communication modalities; speech disorders; language disorders; hearing disorders; swallowing disorders.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 520. Human Communication Across the Lifespan. 3 Credits.

Development of human communication processes across the lifespan, including linguistic and cultural bases of communication.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 521. Human Communication Across the Lifespan (EE). 4 Credits.

Development of human communication processes across the lifespan, including linguistic and cultural bases of communication. Includes a minimum of 30 service hours related to human communication. 12 spaces reserved for Juniors in Speech and Hearing Sciences Minor.

#### **Rules & Requirements**

Making Connections Gen Ed: EE- Service Learning.

Grading Status: Letter grade.

#### SPHS 530. Introduction to Phonetics. 3 Credits.

A detailed study of the International Phonetic Alphabet with emphasis on the sound system of American English. Application of phonetics to problems of pronunciation and articulation. Includes broad and narrow phonetic transcription.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 540. Speech Science. 3 Credits.

Introduction to the science of speech, including production, acoustics, and perception.

#### **Rules & Requirements**

Grading Status: Letter grade.

## SPHS 570. Anatomy and Physiology of the Speech, Language, and Hearing Mechanisms. 3 Credits.

Anatomy and physiology of the speech producing and aural mechanisms.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 582. Introductory Audiology I. 3 Credits.

Theory and practice of the measurement of hearing, causative factors in hearing loss, evaluation of audiometric results, and demonstration of clinical procedures.

#### **Rules & Requirements**

Grading Status: Letter grade.

# SPHS 583. Introduction to Clinical Practice in Speech-Language Pathology and Audiology. 3 Credits.

Introduction to diagnosis and treatment of communication disorders, including articulation, fluency, voice, and language, and those resulting from autism and hearing loss.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### **Graduate-level Courses**

# SPHS 701. Introduction to Research in Speech and Hearing. 3 Credits. Required preparation, statistics course. Experimental and descriptive research designs in speech and hearing sciences, including both group

and single subject.

#### **Rules & Requirements**

Grading Status: Letter grade.

SPHS 705. CL PRACT OBS/AUDIO. 1-15 Credits.

#### **Rules & Requirements**

Grading Status: Letter grade.

### SPHS 706. Clinical Practicum in Audiology. 1-15 Credits.

Supervised clinical experience. May be repeated for credit.

#### **Rules & Requirements**

Repeat Rules: May be repeated for credit.

Grading Status: Letter grade.

#### SPHS 707. COMM ASSESS PRESCHLRS. 3 Credits.

Rules & Requirements
Grading Status: Letter grade.

### SPHS 708. Cochlear Implants: Foundations & Clinical Applications. 4 Credits.

Examines fundamentals of cochlear implants, candidacy, evaluation, equipment, programming, and performance outcomes.

#### **Rules & Requirements**

Requisites: Prerequisites, SPHS 715 and 811.

Grading Status: Letter grade.

#### SPHS 710. Audiologic Assessment. 3 Credits.

Clinical Audiology assessment including pure-tone audiometry, immittance measures, and other measures commonly employed in the standard diagnostic battery.

#### **Rules & Requirements**

Requisites: Prerequisite, SPHS 582 or equivalent.

Grading Status: Letter grade.

#### SPHS 710L. Audiologic Assessment Lab. 1 Credits.

Laboratory exercises in threshold determination, clinical masking and speech recognition testing, all concepts introduced in SPHS 710, Audiologic Assessment.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 712. Characteristics of Amplification Systems. 3 Credits.

Amplification options for the hearing-impaired; specifically, hearing aid, electroacoustics, and earmold technologies. Additionally, hearing aid selection procedures are presented.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 712L. Characteristics of Amplification Lab. 1 Credits.

Laboratory activities related to earmolds, hearing aids, and ANSI electroacoustic verification.

#### **Rules & Requirements**

**Grading Status:** Letter grade.

#### SPHS 715. Anatomy and Physiology of Hearing. 3 Credits.

This course will cover anatomy and physiology of the peripheral hearing system (outer, middle, and inner ear) as well as relevant central pathways.

#### **Rules & Requirements**

Grading Status: Letter grade.

## SPHS 717. Professional Considerations in Speech and Hearing. 3 Credits.

To provide the student with information about current issues facing professionals. Issues include changing delivery systems, leadership, treatment efficacy and quality, reimbursement, and ethics.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 722. Auditory Perception. 3 Credits.

This course provides an overview of psychoacoustics - the psychology of hearing. Content includes introductory acoustics, normal sound perception, and the perceptual consequences of impaired hearing.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 725. Hearing Disorders. 3 Credits.

Diseases and disorders of the auditory system and their management.

#### **Rules & Requirements**

**Requisites:** Prerequisite, SPHS 582. **Grading Status:** Letter grade.

#### SPHS 726. Clinical Issues and Experiences in Audiology. 1 Credits.

Online course covering universal precautions, privacy regulations, clinical practice with diverse cultural groups, report writing, and other aspects of audiology practice.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 730. Instrumentation and Calibration. 1 Credits.

Principles of instrumentation relevant to clinical practice including study of electronics, filters, and analog and digital processing.

#### **Rules & Requirements**

Grading Status: Letter grade.

### SPHS 733. Auditory Strategies for Spoken Language in Deaf Children. 1 Credits.

Instruction and application of a variety of topics demonstrating the use of auditory techniques, and strategies to promote the use of spoken

#### Rules & Requirements

Grading Status: Letter grade.

language in children with hearing loss.

# SPHS 740. Principles of Prevention, Assessment, and Intervention in Speech-Pathology. 3 Credits.

Principles and methods of prevention, assessment, and intervention for people with communication and swallowing disorders, including consideration of anatomical/physiological, psychological, developmental, and linguistic and cultural correlates of the disorders.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 741. Neuroanatomy. 3 Credits.

A survey of neurological anatomy in relation to clinical speechlanguage pathology. Topics considered include organization of the CNS, neuroanatomy, neurophysiology, and neurochemistry.

#### **Rules & Requirements**

Requisites: Prerequisite, SPHS 570.
Grading Status: Letter grade.

#### SPHS 742. Aphasia. 3 Credits.

Discussion of adult aphasia and its clinical management, including assessment, diagnosis, prognosis, counseling, and treatment. Combined lectures and laboratories.

#### **Rules & Requirements**

**Requisites:** Prerequisite, SPHS 570. **Grading Status:** Letter grade.

#### SPHS 743. Pediatric Speech Disorders. 4 Credits.

Identification and differential diagnosis of delayed and disordered speech development; associated body structures and functions; intervention approaches focused on improving speech intelligibility, fluency, and participation in communication activities.

#### **Rules & Requirements**

Requisites: Prerequisite, SPHS 530; permission of the instructor for

students lacking the prerequisite. **Grading Status:** Letter grade.

#### SPHS 744. Motor Speech Disorders. 4 Credits.

Assessment and treatment of adults with disorders of motor speech control (i.e. dysarthria, anarthria, fluency, and apraxia of speech).

#### **Rules & Requirements**

Requisites: Prerequisites, SPHS 540 and 570.

Grading Status: Letter grade.

## SPHS 745. Cognitive Communication Disorders Across the Lifespan. 3 Credits.

An advanced course on cognitive bases of human communication and cognitive-communication disorders. Topics covered include theoretical models of cognitive communication across the lifespan, cognitive processes thought to underlie communication, and common clinical presentations of cognitive communication disorders associated with traumatic brain injury, right hemisphere injury, left hemisphere stroke and dementia. The goal of this course is to improve students abilities to apply theoretical models of communication and current research literature to assessment and practice. Restricted to: Speech-Language Pathology Graduate students in the MS-SLP program.

#### **Rules & Requirements**

**Requisites:** Prerequisite, SPHS 741. **Grading Status:** Letter grade.

#### SPHS 748. Voice Disorders. 3 Credits.

Assessment and management of a range of laryngeal and aerodigestive disorders across the lifespan. Students admitted to the Master of Science in Speech and Hearing Sciences/Speech-language pathology program only.

#### **Rules & Requirements**

Grading Status: Letter grade.

# SPHS 749. Evaluation and Clinical Management of Persons with Oral-Facial Anomalies. 3 Credits.

In-depth analysis of the embryologic and physiologic bases of oralfacial anomalies and the team approach to assessment and habilitation. Particular emphasis placed upon the following specialties: genetics, plastic surgery, prosthodontics, orthodontics, otolaryngology, and speechlanguage pathology.

#### **Rules & Requirements**

Requisites: Prerequisites, SPHS 540 and 570.

Grading Status: Letter grade.

# SPHS 751. Global Issues and Practices in Communication Disorders. 3 Credits.

Examination and discussion of issues related to international practices in communication sciences and disorders, including effective global engagement. Restricted to: MS/SLP Graduate students and advanced undergraduates in the Minor with permission of instructor.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 752. Seminar in Medical Speech Language Pathology. 3 Credits.

Discussion of normal aging and language. Assessment and treatment of cognitive and linguistic problems in persons with dementing conditions, right hemisphere dysfunction, and traumatic brain injury.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 754. Dysphagia. 3 Credits.

Discussion of the development of the normal swallow, anatomy and physiology of the swallowing mechanism, and assessment and team management of swallowing disorders.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 760. Neurologic Communication Disorders in Adults. 3 Credits.

Overview of communication disorders commonly seen in adult populations. These include disorders of language, cognition, speech and motor control, voice, and fluency.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 761. Child Communication Disorders. 3 Credits.

Disorders of child speech and language development, as a prerequisite for advanced specialized coursework and supervised clinical practicum.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 762. Language Impairments in School Age Children. 3 Credits.

Assessment and intervention methods for receptive and expressive language (phonology, morphology, syntax, semantics, pragmatics, prelinguistic communication, and paralinguistic communication) in speaking, listening, reading, and writing.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 765. Augmentative and Alternative Communication. 3 Credits.

Introduction to Augmentative and Alternative Communication (AAC) systems for individuals with complex communication impairments; processes involved in selecting, representing, and organizing vocabulary; strategies to support development of communicative competence in AAC.

#### **Rules & Requirements**

**Grading Status:** Letter grade.

# SPHS 771. Supervised Clincal Experience in Speech-Language Pathology I. 1 Credits.

Supervised clinical experience in Speech-Language Pathology scope of practice.

#### **Rules & Requirements**

**Grading Status:** Letter grade.

# SPHS 772. Supervised Clinical Experience in Speech-Language Pathology II. 1 Credits.

Supervised clinical experience in Speech-Language Pathology scope of practice.

#### **Rules & Requirements**

Grading Status: Letter grade.

## SPHS 773. Supervised Clinical Experience in Speech-Language Pathology III. 1 Credits.

Supervised clinical experience in Speech-Language Pathology scope of practice.

#### **Rules & Requirements**

Grading Status: Letter grade.

## SPHS 774. Supervised Clinical Experience in Speech-Language Pathology IV. 1 Credits.

Supervised clinical experience in Speech-Language Pathology scope of practice.

#### **Rules & Requirements**

Grading Status: Letter grade.

## SPHS 775. Supervised Clinical Experience in Speech-Language Pathology V. 2 Credits.

Supervised clinical experience in Speech-Language Pathology scope of practice.

#### **Rules & Requirements**

Repeat Rules: May be repeated for credit. 6 total credits. 3 total

completions.

Grading Status: Letter grade.

#### SPHS 776. Ethical Practice Policies and Guidelines. 1 Credits.

Academic program accreditation standards; standards of ethical conduct; practice policies and guidelines; prevention of communication disorders; role of the speech-language pathologist.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 777. Contemporary Professional Issues in Education. 1 Credits.

Principles and rules of the current ASHA Code of Ethics; technical reports, diagnostic and treatment reports; treatment plans, and professional correspondence.

#### **Rules & Requirements**

**Requisites:** Prerequisite, SPHS 776. **Grading Status:** Letter grade.

# SPHS 778. Culturally Responsive Practices in Speech-Language Pathology. 2 Credits.

Cultural and linguistic diversity, its influence on human communication and the infusion of this knowledge into clinical practice, recognizing the needs, values, preferred mode of communication, and cultural/linguistic background of the client/patient, family, caregivers, and relevant others.

#### **Rules & Requirements**

Grading Status: Letter grade.

# SPHS 779. Professional Practice Issues in Speech-Language Pathology. 2 Credits.

Cultural competence; conflict management; effective clinical and professional interaction with clients/patients and relevant others.

#### **Rules & Requirements**

Requisites: Prerequisites, SPHS 776, SPHS 777, SPHS 778.
Repeat Rules: May be repeated for credit. 6 total credits. 3 total

completions.

Grading Status: Letter grade.

#### SPHS 792. Pediatric Dysphagia. 3 Credits.

This course will cover content on the specialty area of pediatric dysphagia assessment and intervention. The course will cover normal development of feeding skills, explore underlying etiologies of feeding disorders, current methods and philosophies of providing evaluation and intervention, existing and ongoing research in these areas, and special populations such as infants with craniofacial anomalies.

#### **Rules & Requirements**

**Requisites:** Prerequisite, SPHS 754. **Grading Status:** Letter grade.

#### SPHS 802. Problems in Speech and Hearing Sciences. 1-3 Credits.

May be repeated for credit.

#### **Rules & Requirements**

**Repeat Rules:** May be repeated for credit; may be repeated in the same term for different topics; 6 total credits. 6 total completions.

Grading Status: Letter grade.

#### SPHS 803. Audiologic Rehabilitation for Children. 3 Credits.

Covers speech perception and the effects of hearing loss on perception and production of speech as background for understanding assessment and treatment, with an auditory-verbal emphasis. Pediatric assessment and amplification are reviewed.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 804. Audiologic Rehabilitation for Adults. 3 Credits.

Theoretical bases and history of audiologic rehabilitation of adults. Also, practical approaches to assessment and therapeutic intervention are presented. The roles of assistive technology and family-based counseling are included.

#### **Rules & Requirements**

Grading Status: Letter grade.

SPHS 805. Auditory Verbal Therapy. 2 Credits.

Rules & Requirements
Grading Status: Letter grade.

#### SPHS 806. Seminar in Early Intervention. 3 Credits.

Stages of communication development of children from birth to five years old; clinical issues related to the assessment tools and intervention and planning for children with disabilities and their families.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 808. Seminar in Audiologic Rehabilitation. 2 Credits.

Audiologic rehabilitation including counseling, visual speech perception, auditory training, special needs of older adults and psychosocial aspects of hearing loss will be addressed. Review of technology to enhance communication included.

#### **Rules & Requirements**

Requisites: Prerequisites, SPHS 712 and 813.

Grading Status: Letter grade.

#### SPHS 809. Introduction to Cochlear Implants. 1 Credits.

Introductory information regarding cochlear implant candidacy, an overview of implant components, the evaluation process, surgery, device programming, and initiation of post implantation therapy. Class meets three hours for five weeks.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 811. Pediatric Audiology. 3 Credits.

Clinical procedures used in the identification and management of hearing loss in young children.

#### **Rules & Requirements**

Grading Status: Letter grade.

# SPHS 812. Pediatric Amplification and Assistive Listening Devices. 2 Credits.

This course covers prescriptive formulas, verification and fitting of hearing aids and FM systems, and suggested monitoring of progress when working with young children with hearing loss and their families.

#### **Rules & Requirements**

Requisites: Prerequisites, SPHS 712 and 811.

Grading Status: Letter grade.

#### SPHS 813. Fitting and Dispensing of Amplification Systems. 3 Credits.

Theoretical and practical approaches to fitting amplification systems and the procedures for dispensing amplification systems to the hearing-impaired.

#### **Rules & Requirements**

**Requisites:** Prerequisite, SPHS 712. **Grading Status:** Letter grade.

#### SPHS 813L. Fitting and Dispensing of Amplification Lab. 1 Credits.

Laboratory experiences related to the selection, programming, and fitting of amplification devices to hearing impaired individuals.

#### **Rules & Requirements**

**Requisites:** Prerequisite, SPHS 712. **Grading Status:** Letter grade.

#### SPHS 814. Auditory Evoked Potentials I. 3 Credits.

This course explores the field of auditory evoked responses. The primary focus is on responses from the auditory periphery including otoacoustic emissions (OAEs), electrocochleography (ECochG), and the auditory brainstem response (ABR).

#### **Rules & Requirements**

Requisites: Prerequisites, SPHS 710, 715, and 722.

Grading Status: Letter grade.

#### SPHS 814L. The Auditory Evoked Potentials I Lab. 1 Credits.

Elecrophysiologic laboratory exercises to accompany Auditory Evoked Potentials I course.

#### **Rules & Requirements**

Requisites: Prerequisites, SPHS 710, 715, and 722.

Grading Status: Letter grade.

#### SPHS 815. Auditory Evoked Potentials II. 3 Credits.

Advanced principles of pediatric audiology and intervention strategies for hearing-impaired children. Procedures for counseling and case management.

#### **Rules & Requirements**

**Requisites:** Prerequisite, SPHS 582. **Grading Status:** Letter grade.

#### SPHS 816. Occupational and Community Audiology. 2 Credits.

Military and industrial audiology and hearing conservation, including physiological and psychological factors.

#### **Rules & Requirements**

**Requisites:** Prerequisite, SPHS 582. **Grading Status:** Letter grade.

#### SPHS 818. Balance Assessment and Rehabilitation. 3 Credits.

Principles of vestibular function and dysfunction, clinical assessment, and management.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 818L. Balance Assessment Lab. 1 Credits.

Laboratory exercises to accompany Balance Assessment course. To include case history, bedside examination, and objective measurements.

#### **Rules & Requirements**

**Requisites:** Prerequisite, SPHS 710. **Grading Status:** Letter grade.

#### SPHS 819. Educational Audiology. 2 Credits.

Examines the provision of services to school-age children, with special focus on eligibility determination and assessment of central auditory perception.

#### **Rules & Requirements**

Requisites: Prerequisites, SPHS 710 and 871L.

Grading Status: Letter grade.

#### SPHS 823. Business Management and Professional Issues. 3 Credits.

Examine healthcare and business models that impact audiology practice. Personnel management, marketing, quality assurance, and service reimbursement for audiology practices will be covered.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 824. Audiology Grand Rounds. 1 Credits.

Examines clinical cases from the perspective of presenting symptoms, test results, and clinical outcomes.

#### **Rules & Requirements**

**Grading Status:** Letter grade.

### SPHS 825. Embryology and Genetics of Hearing and Deafness. 2

Credits.

Genetics related to developing hearing and balance structures as well as syndromic and nonsyndromic hearing loss and deafness.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 827. Pharmacology & Tinnitus in Audiology Practice. 2 Credits.

Advanced audiology course that provides fundamental knowledge about pharmacological mechanisms and their impact on hearing and balance, as well as evaluation and management of patients with persistent tinnitus.

#### **Rules & Requirements**

Requisites: Prerequisite, SPHS 715 and SPHS 725.

Grading Status: Letter grade.

#### SPHS 830. Independent Study. 1-5 Credits.

This course gives enrolled graduate students in the curriculum an opportunity to pursue research supervised by one or more faculty members, culminating in a written document or special project.

#### **Rules & Requirements**

Repeat Rules: May be repeated for credit; may be repeated in the same

term for different topics. **Grading Status:** Letter grade.

#### SPHS 831. Advanced Signal Processing. 1 Credits.

This course will provide information regarding advanced signal processing utilized in digital amplification and cochlear implants.

#### Rules & Requirements

Grading Status: Letter grade.

#### SPHS 832. Speech Acoustics. 2 Credits.

This course provides information on the fundamentals of speech production, including the acoustic characteristics of normal and disordered speech.

#### **Rules & Requirements**

**Requisites:** Prerequisite, SPHS 833. **Grading Status:** Letter grade.

#### SPHS 833. Special Topics. 3 Credits.

This is the foundation course in a series related to providing services to children with hearing loss. Six units focus on working with families, speech acoustics, audiological interpretation, instrumentation, foundations of speech and language, and early literacy.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 834. Counseling and Communication Disorders. 3 Credits.

This course provides a broad overview of contemporary counseling issues in communication disorders. The impact of subject age, life course, and cultural background on interviewing and counseling is included.

#### **Rules & Requirements**

Grading Status: Letter grade.

### SPHS 836. Audiology Interpretation and Hearing Technologies. 4

This course focuses on behavioral and physiologic assessment of hearing in children and how these measures are used in aural habilitation. Fundamentals of hearing instrument technology including the selection and fitting of hearing aids and cochlear implants are addressed.

#### **Rules & Requirements**

**Grading Status:** Letter grade.

#### SPHS 840. Aging and Communication Disorders. 3 Credits.

This course focuses on medical, psychological, and social theories and aspects of aging as they relate to communication processes and disorders.

#### **Rules & Requirements**

Grading Status: Letter grade.

**SPHS 841. Seminar in Speech-Language Pathology. 0.5-15 Credits.** Special topics and significant literature in the field of speech pathology.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 849. Fluency Disorders. 2 Credits.

Course participants will develop an understanding of evaluation and treatment of acquired and developmental fluency disorders in children and adults through lecture and hands-on practice.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 850. Language Disorders Encountered in Audiology. 3 Credits.

Students will learn about four areas of language disorders affecting children and adults (receptive and expressive language disorders, communication modalities, social aspects of communication, and cognitive aspects of communication) through readings, posted videos, and online guizzes. This is an asynchronous online course.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 851. Speech Disorders Encountered in Audiology. 3 Credits.

Students will learn about speech disorders (fluency, voice, articulation, and craniofacial anomalies) through readings, posted videos, and online quizzes. This is an online asynchronous course.

#### **Rules & Requirements**

Grading Status: Letter grade.

### SPHS 852. Speech and Language Disorders Encountered in Audiology. 3 Credits

Students will select two topics from speech disorders (fluency, voice, articulation, and craniofacial anomalies) and two topics from language disorders (receptive and expressive language disorders, communication modalities, social aspects of communication, and cognitive aspects of communication). This is an online asynchronous course with readings, videos, and quizzes.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 860. Seminar on Early Communication Disorders. 3 Credits.

Rules & Requirements
Grading Status: Letter grade.

#### SPHS 861. Seminar in Language and Language Disorders. 1-3 Credits.

Special topics and significant literature in the field of language and language disorders. May be repeated for credit.

#### **Rules & Requirements**

**Grading Status:** Letter grade.

### SPHS 863. Listening and Spoken Language Development and Intervention. 3 Credits.

The course focuses on typical development, impact of hearing loss on listening and spoken language acquisition, assessment, strategies/techniques, and intervention for children birth-5 years who are deaf/hard of hearing.

#### **Rules & Requirements**

Requisites: Prerequisites, SPHS 832 and 836.

**Grading Status:** Letter grade.

#### SPHS 864. Speech and Language Impairments of Children. 3 Credits.

Seminar course exploring categorical classifications of young children and the impact of these categories on assessment and intervention. Common topics include autism, visual impairments, fragile X syndrome, and Down syndrome.

#### **Rules & Requirements**

**Grading Status:** Letter grade.

SPHS 865. Doctoral Seminar in Grant Writing. 3 Credits.

Rules & Requirements

Grading Status: Letter grade.

#### SPHS 870. Directed Research Experience. 3 Credits.

Individual work by a student (supervised by faculty) to explore an area of interest in a research paper or guided research experience.

## Rules & Requirements Grading Status: Letter grade.

#### SPHS 871. Teaching and Supervision. 1 Credits.

Course regarding teaching of skills and supervision of individuals conducting screening programs. Introduction to teaching and development of assessment tools provides a background for the teaching lab associated with this course.

### Rules & Requirements

**Grading Status:** Letter grade.

#### SPHS 871L. Teaching and Supervision Lab. 1 Credits.

Experience developing and delivering training module, instructional module, and supervising new trainees.

#### Rules & Requirements

Grading Status: Letter grade.

#### SPHS 880. Autism Seminar. 3 Credits.

The purpose of this course is to develop a familiarity and understanding of topics related to Autism Spectrum Disorders (ASD). Issues related to characteristics, etiologies, theories, assessment, and intervention will be discussed.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 882. Seminar in Speech Science. 1-3 Credits.

Advanced special topics and current research in speech science. May be repeated for credit.

#### **Rules & Requirements**

Grading Status: Letter grade.

# SPHS 888. Autism and Other Developmental Disabilities in Children Who Are Deaf or Hard of Hearing I. 1 Credits.

Students will acquire knowledge related to screening, diagnosis, and intervention for children who have autism and/or other developmental disabilities in addition to hearing loss.

#### Rules & Requirements

Grading Status: Letter grade.

# SPHS 889. Autism and Other Developmental Disabilities in Children Who Are Deaf or Hard of Hearing II. 1 Credits.

Students and faculty will examine challenges and solutions related to screening, diagnosis, and intervention for children who have autism and/or other developmental disabilities in addition to hearing loss.

#### **Rules & Requirements**

Repeat Rules: May be repeated for credit. 2 total credits. 2 total

completions.

Grading Status: Letter grade.

#### SPHS 896. North Carolina Service Learning Trip. 1 Credits.

Interdisciplinary learning experience focused on examining social determinants of health while performing service activities in collaboration with community partners.

#### **Rules & Requirements**

Repeat Rules: May be repeated for credit. 3 total credits. 3 total

completions.

**Grading Status:** Letter grade.

#### SPHS 897. Autism Seminar. 3 Credits.

Participants develop knowledge of the major neuropsychological theories of autism and methodological issues in autism research through reading and discussion of literature; participate in developing and presenting autism research projects individually or in groups.

#### **Rules & Requirements**

**Grading Status:** Letter grade.

#### SPHS 898. Literacy. 3 Credits.

This course provides an overview of literacy development for children birth to eight years old. It will also address the impact of hearing loss on the development of literacy.

#### **Rules & Requirements**

**Grading Status:** Letter grade.

#### SPHS 900. Research Design. 3 Credits.

Doctoral seminar that introduces the student to principles of quantitative research methodology.

#### **Rules & Requirements**

Grading Status: Letter grade.

#### SPHS 901. Seminar in Single Subject and Survey Research. 3 Credits.

Doctoral student seminar that introduces the student to principles of single subject and survey research methodology.

#### **Rules & Requirements**

Grading Status: Letter grade.

## SPHS 902. Research in the Context of the Evidence-Based Practice Movement in Early Intervention. 3 Credits.

Overview of the evidence-based practice (EBP) movement in early intervention (EI), definitions of EBP, systems for appraising evidence quality, examination of evidence base for current practices in EI.

#### **Rules & Requirements**

Grading Status: Letter grade.

SPHS 966I. CONS AND COLLABORA. 3 Credits.

Rules & Requirements
Grading Status: Letter grade.

SPHS 993. Master's Research and Thesis. 3 Credits.

**Rules & Requirements** 

Repeat Rules: May be repeated for credit.

SPHS 994. Doctoral Research and Dissertation. 3 Credits.

### **Contact Information**

#### **Division of Speech and Hearing Sciences**

Visit Program Website (http://www.med.unc.edu/ahs/sphs/)