Speech, Language and Hearing Sciences

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Includes the study of normal language, speech, and hearing across the life span, as well as communication disorders that result from biological, environmental, and behavioral factors. Speech, Language and Hearing Sciences includes the professions of speech-language pathology and audiology.

Speech-language pathologists evaluate the speech and language of children and adults to determine whether problems exist in such areas as voice, articulation, fluency, and receptive or expressive language. They also plan and carry out programs for the treatment of these problems. Audiologists evaluate hearing, identify hearing loss, and participate in the rehabilitation of persons with hearing impairments.

The professions of speech-language pathology and audiology require master’s or doctoral degrees. Acceptance to an undergraduate program does not guarantee acceptance to a graduate program. Refer to the Graduate Catalog for information about the MHS degree (http://catalog.missouri.edu/undergraduategraduate/schoolofhealthprofessions/speechlanguagehearing/mhs-speech-language-hearing).

Faculty

**Associate Professor** M. Dietrich**, J. C. Goodman**, S. A. Wagovich**
**Assistant Professor** R. Botezatu**, E. S. Kelley**, M. Kuruvilla-Dugdale**, N. A. Smith**
**Clinical Professor** D. R. Fritz*
**Associate Clinical Professor** L. B. Lawrence*, B. A. McLay*
**Assistant Clinical Professor** C. Baker
**Research Associate Professor Emerita** L. S. Day*

- Graduate Faculty Member - membership is required to teach graduate-level courses, chair master's thesis committees, and serve on doctoral examination and dissertation committees.
- Doctoral Faculty Member - membership is required to chair doctoral examination or dissertation committees. Graduate faculty membership is a prerequisite for Doctoral faculty membership.

Undergraduate

- **BHS in Speech, Language and Hearing Sciences** (http://catalog.missouri.edu/undergraduategraduate/schoolofhealthprofessions/speechlanguagehearing/bhs-speech-language-hearing)
- **MHS in Speech, Language and Hearing Sciences** (http://catalog.missouri.edu/undergraduategraduate/schoolofhealthprofessions/speechlanguagehearing/mhs-speech-language-hearing)
- with emphasis in Speech-Language Pathology (http://catalog.missouri.edu/undergraduategraduate/schoolofhealthprofessions/speechlanguagehearing/mhs-speech-language-hearing-emphasis-speech-language-pathology)

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https://healthprofessions.missouri.edu/speech-language-and-hearing-sciences/

About Speech, Language and Hearing Sciences

The field of Speech, Language and Hearing Sciences encompasses the related but distinct disciplines of speech-language pathology (SLP), audiology, and speech, language, and hearing sciences (SLHS). Speech-language pathologists and audiologists are professionals educated in human communication and its disorders. Speech-language pathologists diagnose and treat disorders such as delayed language development, stuttering, articulation, and voice problems. Audiologists specialize in the prevention, identification, assessment, and rehabilitation of hearing disorders. Speech, language, and hearing scientists are professionals concerned with exploring trends in the communication sciences, as well as developing strategies for improving or adding to the knowledge base within the fields of speech-language pathology and audiology.

MU established its first independent master’s and doctoral programs in speech-language pathology and audiology in the 1940s. The MU master’s degree program in speech-language pathology has been continuously accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology since 1966. An active local chapter of the National Student Speech Language Hearing Association is sponsored by the program.

The master’s degree prepares students for national certification in speech-language pathology and for professional clinical practice in both health care and educational settings. The doctoral degree involves a program of research and advanced study beyond the clinical master’s degree in preparation for a career in research and college teaching or administration.

Career Opportunities

A wide variety of work settings are available to speech-language pathologists and audiologists. Possibilities range from hospitals, clinics, and rehabilitation centers to schools, colleges and universities, government agencies, and private practice. Speech, language, and hearing scientists work primarily in colleges and universities, research labs and government agencies. Professional certification in speech-language pathology and audiology is awarded by the American Speech-Language-Hearing Association (ASHA). The master’s degree, which is the entry-level degree for speech-language pathologists, typically takes two years beyond the undergraduate degree. Additional prerequisite coursework is required for students with undergraduate degrees outside the field. Students wishing to pursue a career in audiology will need to
attend a program that offers a clinical doctorate in audiology (AuD), the entry-level degree for audiologists.

**Facilities and Resources**

The department uses many cooperative facilities in Columbia, both on and off the MU campus, as clinical and scientific resources. Among these are the University Hospitals and Clinics, Rusk Rehabilitation Center, Ellis Fischel Cancer Center, Truman Memorial Veterans Hospital, Adult Day Connection, Assistive Technology Evaluation Center, Thompson Center for Autism and Neurodevelopmental Disorders, and Columbia Public Schools.

Other cooperative facilities are available both within and outside the State. The department operates the MU Speech and Hearing Clinic, a diagnostic and treatment center serving individuals with communication disorders from the campus and the community, the MU Robert G. Combs Language Preschool, and the Accent Modification and Pronunciation Program. In addition, there are many research opportunities for students in the laboratories of individual faculty where they may gain experience with sophisticated equipment for research and clinical evaluation in normal and disordered speech, language, and hearing. A master’s thesis option is available to students interested in conducting research.

**Funding**

All graduate students are considered for available scholarships, fellowships, work-study grants, traineeships and graduate teaching and research assistantships.

**SLHS 1000: Introduction to Communication Science and Disorders**
Nature of communication and its development; types of speech, language and hearing disorders; professional preparation, settings, and work of speech-language pathologists and audiologists. Course graded on S/U basis only.

**SLHS 1060: Human Language**
(same as ANTHRO 1060, LINGST 1060 and ENGLISH 1060). General introduction to various aspects of linguistic study. Elementary analysis of language data with some attention to application of linguistic study to other disciplines.

**SLHS 1100: American Sign Language I**
Introduction to American Sign Language (ASL). Development of basic expressive and receptive skills in ASL, the manual alphabet, numbers, and signed vocabulary. Includes an overview of ASL syntax and grammar. Course graded on A-F basis only.

**SLHS 1200: American Sign Language II**
This course is designed to increase students’ understanding of American Sign Language. Students will increase their sign vocabulary, expressive and receptive skills, an understanding of ASL syntax and grammar. Graded on A-F basis only.

**SLHS 2100: Survey of Communication Disorders**
Systematic survey of the disorders of speech, language and hearing.

**SLHS 2150: American Sign Language III**
This course expands on vocabulary and signing skills developed in ASL II. Includes review of ASL grammar and extensive discussions of ASL linguistic structure and Deaf culture. Class is conducted entirely in ASL. Course graded on A-F basis only.

**SLHS 3050: Signed English and Communication Development**
This course covers research, theory, and methods of using sign language to assist the communication of the Deaf, individuals with disabilities, and hearing learners. Use of sign language to improve literacy and classroom management also will be targeted. No prior experience with any sign language and/or sign system is required. Development of a basic vocabulary in Signed English will be included in this course.

**SLHS 3210: Anatomy and Physiology of the Speech Mechanism**
(same as LINGST 3210). Introduction to anatomical and functional aspects of the speech mechanism.

**SLHS 3010: American Phonetics**
(same as LINGST 3010). Analysis of production and acoustics of the sounds of speech with an emphasis on American English; practice in broad and narrow transcription using the International Phonetic Alphabet.

**SLHS 3020: Normal Language Development**
Language development in children and changes in language processing during normal aging. Cognition and language; language learning processes; language sample analysis; relationship between spoken and written language.

**SLHS 3020W: Normal Language Development - Writing Intensive**
Language development in children and changes in language processing during normal aging. Cognition and language; language learning processes; language sample analysis; relationship between spoken and written language.

**SLHS 3050: Signed English and Communication Development**
This course covers research, theory, and methods of using sign language to assist the communication of the Deaf, individuals with disabilities, and hearing learners. Use of sign language to improve literacy and classroom management also will be targeted. No prior experience with any sign language and/or sign system is required. Development of a basic vocabulary in Signed English will be included in this course.

**SLHS 3210: Anatomy and Physiology of the Speech Mechanism**
(same as LINGST 3210). Introduction to anatomical and functional aspects of the speech mechanism.
SLHS 3220: Speech Acoustics
(same as LINGST 3220). An introduction to the acoustic aspects of speech as they relate to the respiratory, phonatory, resonatory, and articulatory systems.

Credit Hours: 2
Prerequisites: Communication Science and Disorders majors only or instructor's consent

SLHS 3230: Hearing Science
Introduction to the nature of sound and its measurement; anatomy and physiology of the auditory and vestibular systems; psychoacoustic methods and phenomena.

Credit Hours: 3
Prerequisites: Restricted to Communication Science and Disorders majors only

SLHS 3950: Research Methods in Speech and Language Sciences
This course is designed to help students gain an understanding of how research in the discipline of speech and language sciences is conducted and how to differentiate between good-quality and poor-quality research design. We will explore the importance of the scientific method in conducting rigorous research. The course will enable students to explore the different types of research conducted within the discipline and will prepare students for an introductory experience in a research lab. Graded on A-F basis only.

Credit Hours: 3
Prerequisites: Sophomore standing

SLHS 4001: Topics in Speech, Language and Hearing Science
Organized study of selected topics. Subjects and earnable credit may vary from semester to semester. May be repeated with program consent.

Credit Hour: 1-99
Prerequisites: junior standing and instructor’s consent

SLHS 4020: Language Disorders in Children
Overview of language disorders from early childhood through adolescence. Includes language disorders as primary disability and as secondary to other disabilities. Introduction to assessment and intervention.

Credit Hours: 3
Prerequisites: Communication Science and Disorders majors only

SLHS 4020W: Language Disorders in Children - Writing Intensive
Overview of language disorders from early childhood through adolescence. Includes language disorders as primary disability and as secondary to other disabilities. Introduction to assessment and intervention.

Credit Hours: 3
Prerequisites: Communication Science and Disorder majors only

SLHS 4030: Language Disorders of Adults
Introduction to acquired adult language disorders. Review of neuroanatomy/physiology, etiology and symptomatology, with introduction to assessment and treatment procedures.

Credit Hours: 2
Prerequisites: Communication Science and Disorders majors only

SLHS 4210: Fluency Disorders

Credit Hours: 2
Prerequisites: Communication Science and Disorders majors only

SLHS 4220: Voice Disorders
Introduction to voice disorders in children and adults. Includes overview of perceptual and instrumental assessment procedures and selected treatment approaches.

Credit Hour: 1
Prerequisites: Communication Science and Disorders majors only

SLHS 4320: Disorders of Phonology and Articulation
Overview of disorders of use and production of speech sounds with an emphasis on developmental disorders. Introduction to assessment and treatment.

Credit Hours: 3
Prerequisites: Communication Science and Disorders majors only

SLHS 4330: Introduction to Audiology
Principles and techniques of audiological testing; etiologies of hearing impairment; current technologies in rehabilitation.

Credit Hours: 3
Prerequisites: SLHS 3230; Communication Science and Disorders majors only or instructor’s consent

SLHS 4340: Aural Rehabilitation
(cross-leveled with SLHS 7340). Identification, evaluation, and management of problems associated with hearing impairment in both children and adults. Includes issues related to speech/language development, communication, education, and social factors.

Credit Hours: 3
Prerequisites: Communication Science and Disorders majors only

SLHS 4340W: Aural Rehabilitation-Writing Intensive
(cross-leveled with SLHS 7340). Identification, evaluation, and management of problems associated with hearing impairment in both children and adults. Includes issues related to speech/language development, communication, education, and social factors.

Credit Hours: 3
Prerequisites: Communication Science and Disorder majors only

SLHS 4430: Neurophysiology for Speech, Language, and Hearing
(cross-leveled with SLHS 7430). Principles of basic neurophysiology, emphasizing correlation of structure and function of the nervous system.

Credit Hours: 3
Prerequisites: Communication Science and Disorders majors only

SLHS 4830: Individual Differences in Language Processing
(cross-leveled with SLHS 7830). Examination of the normal variations exhibited across individuals in the acquisition, use, and representation
of language. Also considered are individual differences seen in second language learning, the aging process, and language disorders.

**Credit Hours:** 2  
**Prerequisites:** instructor's consent

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**SLHS 4840: Language and Development in Infancy**  
(cross-leveled with SLHS 7840). Overview of theory and research on the foundations and development of language in infancy (0 to 2 years), with an emphasis on relevant, interrelated areas of development, individual differences, early recognition of delay, and assessment.  
**Credit Hours:** 3  
**Prerequisites:** senior standing required. Instructor's consent required

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**SLHS 4850: Bilingualism**  
(cross-leveled with SLHS 7850). This course is intended to establish an understanding of bilingual language processing and of the consequences of bilingualism on cognition. The course begins by reviewing the individual differences that modulate language processing in monolinguals and the factors that predict good second language learning outcomes in adults. This sets up the stage of an in-depth discussion of the ways in which second language proficiency changes the dynamics of language production and comprehension, as well as the cognitive performance across the lifespan. Students will be introduced to theories and models of bilingual language processing and will learn to evaluate evidence for and against the bilingual advantage and the benefits of bilingualism in healthy aging and recovery from acquired language deficits, such as aphasia. Students will also learn to identify patterns of language performance that distinguish bilinguals from monolinguals and from individuals with language disorders. Graded on A-F basis only.  
**Credit Hours:** 3  
**Recommended:** Junior or Senior standing

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**SLHS 4900: Clinical Observation in Communication Disorders**  
Directed clinical observations designed to prepare the student for clinical practicum. Required for professional certification. Graded on a S/U basis only.  
**Credit Hours:** 2  
**Prerequisites:** Communication Science and Disorders majors only

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**SLHS 4945: Clinical Apprenticeship in Communication Disorders**  
Supervised observation and clinical experience in speech-language pathology or audiology for undergraduates.  
**Credit Hour:** 1-3  
**Prerequisites:** senior standing and departmental consent. Communication Science and Disorders majors only

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**SLHS 4950: Research Apprenticeship**  
Research apprenticeship with a faculty member, assisting in the development and execution of research in communication processes and disorders. May be repeated to 9 hrs. maximum.  
**Credit Hour:** 1-9  
**Prerequisites:** instructor's consent

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**SLHS 4960: Directed Reading in Communication Science and Disorders**  
Independent reading; reports.  
**Credit Hour:** 1-3  
**Prerequisites:** instructor's consent

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**SLHS 4990: Honors Thesis**  
Individual honors thesis on a topic selected with a faculty advisor. Requires planning, conducting, and writing up a research project under the guidance of a faculty member. Successful completion of thesis and maintenance of 3.3 GPA, leads to degree with departmental honors. Graded on A-F basis only.  
**Credit Hours:** 3  
**Prerequisites:** Senior standing; 3.3 GPA; 3.5 GPA in Communication Science and Disorders courses; instructor's consent. Restricted to Communication Science and Disorders students only

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**SLHS 7001: Topics in Speech, Language and Hearing Science**  
Study of selected topics in speech pathology/audiology. Topic and credit may vary from semester to semester. May be repeated for credit with instructor and departmental consent.  
**Credit Hour:** 1-99  
**Prerequisites:** instructor's consent

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**SLHS 7085: Problems in Speech, Language and Hearing Science**  
Individual study not leading to thesis or dissertation.  
**Credit Hour:** 1-99  
**Prerequisites:** instructor's consent

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**SLHS 7340: Aural Rehabilitation**  
(cross-leveled with SLHS 4340). Identification, evaluation, and management of problems associated with hearing impairment in both children and adults. Includes issues related to speech/language development, communication, education, and social factors.  
**Credit Hours:** 3  
**Prerequisites:** Communication Science and Disorders majors only

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**SLHS 7430: Neurophysiology for Speech, Language, and Hearing**  
(cross-leveled with SLHS 4430). Principles of basic neurophysiology, emphasizing correlation of structure and function of the nervous system.  
**Credit Hours:** 3  
**Prerequisites:** Communication Science and Disorders majors or instructor's consent

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**SLHS 7480: Language and Development in Infancy**  
(cross-leveled with SLHS 4840). Overview of theory and research on the foundations and development of language in infancy (0 to 2 years), with an emphasis on relevant, interrelated areas of development, individual differences, early recognition of delay, and assessment.  
**Credit Hours:** 3

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**SLHS 7850: Bilingualism**  
(cross-leveled with SLHS 4850). This course is intended to establish an understanding of bilingual language processing and of the consequences
of bilingualism on cognition. The course begins by reviewing the individual differences that modulate language processing in monolinguals and the factors that predict good second language learning outcomes in adults. This sets up the stage of an in-depth discussion of the ways in which second language proficiency changes the dynamics of language production and comprehension, as well as the cognitive performance across the lifespan. Students will be introduced to theories and models of bilingual language processing and will learn to evaluate evidence for and against the bilingual advantage and the benefits of bilingualism in healthy aging and recovery from acquired language deficits, such as aphasia. Students will also learn to identify patterns of language performance that distinguish bilinguals from monolinguals and from individuals with language disorders. Graded on A-F basis only.

Credit Hours: 3

SLHS 8001: Topics in Speech, Language and Hearing Science
Study of selected topics in speech pathology/audiology. Topic and credit may vary from semester to semester. May be repeated for credit with instructor and departmental consent.

Credit Hour: 1-99
Prerequisites: instructor's consent, instructor's

SLHS 8020: Developmental Language Disorders

Credit Hours: 3
Prerequisites: Communication Science and Disorders students only

SLHS 8030: Acquired Language Disorders
Etiology, symptomatology, assessment and rehabilitation of acquired neurogenic communication disorders in aphasia, traumatic brain injury, and dementia.

Credit Hours: 3
Prerequisites: Communication Science and Disorders students only

SLHS 8050: Research in Speech, Language and Hearing Science
Independent research leading to a report but not to a thesis or dissertation.

Credit Hour: 1-99
Prerequisites: instructor's consent

SLHS 8085: Problems in Speech, Language and Hearing Science
Individual study not leading to thesis or dissertation.

Credit Hour: 1-99
Prerequisites: instructor's consent

SLHS 8090: Research in Speech, Language and Hearing Science
Research leading to thesis or dissertation.

Credit Hour: 1-99
Prerequisites: instructor's consent. Graded on a S/U basis only

SLHS 8200: Motor Speech Disorders
Etiology, symptomatology, epidemiology, and prognosis of motor speech disorders resulting from acquired neurological damage. Emphasis on clinical assessment and rehabilitation procedures. Graded on A-F basis only.

Credit Hours: 3
Prerequisites: Communication Science and Disorders students only

SLHS 8210: Disorders of Fluency
Identification and remediation of fluency disorders in children and adults.

Credit Hours: 3
Prerequisites: Communication Science and Disorders students only

SLHS 8225: Voice Science and Voice Disorders
Diagnosis and management of communicative disorders resulting from pathologies or misuse of the phonatory system. Includes experience with pertinent laboratory instrumentation. Graded on A-F basis only.

Credit Hours: 3
Prerequisites: restricted to MHS CSD students; or with instructor's consent

SLHS 8230: Dysphagia
Etiology, symptomatology, and epidemiology of acquired and developmental swallowing disorders (dysphagia). Emphasis on instrumental and non-instrumental methods for assessing and treating dysphagia.

Credit Hours: 3
Prerequisites: Communication Science and Disorders students only

SLHS 8240: Cleft Palate/Craniofacial Disorders

Credit Hour: 1
Prerequisites: Communication Science and Disorders students only

SLHS 8250: Clinical Methods in Speech-Language Pathology
An introduction to clinical procedures and evidence-based intervention methods relating to speech and language disorders. Topics include session design, data collection, measurement of progress, reporting of clinical results, and various treatment options. Graded on A-F basis only.

Credit Hours: 3
Prerequisites: Communication Science and Disorders students only

SLHS 8260: Diagnosis in Speech-Language Pathology
General principles of diagnosis; specific diagnostic tools and procedures for various speech and language disorders.

Credit Hours: 3
Prerequisites: Communication Science and Disorders students only

SLHS 8300: Neurological Bases of Speech and Language
Structure and function of the human brain and nervous system including general organization, cranial nerves, basal ganglia, cerebellum, and descending motor pathways as related to the field of speech language pathology. Graded on A-F basis only.

Credit Hours: 2
Prerequisites: Communication Science and Disorders students only
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Credit Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLHS 8320</td>
<td>Speech Sound Disorders</td>
<td>Principles of clinical assessment and treatment for speech sound disorders in children. Includes foundations in research on early speech sound acquisition, organic and developmental disorders, and treatment efficacy. Graded on A-F basis only.</td>
<td>2</td>
<td>Communication Science and Disorders students only</td>
</tr>
<tr>
<td>SLHS 8420</td>
<td>Reading and Language Disabilities in School-Age Children</td>
<td>Theories, research, and practice in reading development and disorders. Assessment and remediation of reading disabilities related to language disorders of various etiologies including developmental language disorders and head injury.</td>
<td>2</td>
<td>SLHS 4020 or SLHS 8020</td>
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<tr>
<td>SLHS 8430</td>
<td>Augmentative and Alternative Communication</td>
<td>Students will learn the principles of AAC assessment, methods of intervention, and types of technology available for individuals unable to communicate fully through speech. Graded on A-F basis only.</td>
<td>2</td>
<td>Communication Science and Disorders students only</td>
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<tr>
<td>SLHS 8500</td>
<td>Issues in Professional Practice</td>
<td>Organizational, inter-professional, economic, legal, and ethical aspects of delivering speech, language, and hearing services. Graded on A/F basis only.</td>
<td>2</td>
<td>Communication Science and Disorders students only</td>
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<tr>
<td>SLHS 8600</td>
<td>Clinical Language Analysis</td>
<td>This course provides a theoretical framework for understanding the morphology, semantics, syntax, and pragmatics of English as well as practice in the analysis of typical and atypical language samples. Graded on A-F basis only.</td>
<td>3</td>
<td>Communication Science and Disorders students only</td>
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<tr>
<td>SLHS 8935</td>
<td>Clinical Practice in Audiology</td>
<td>Supervised practice in hearing screening, hearing conservation, and aural re/habilitation. May be repeated for credit. Graded on S/U basis only.</td>
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<tr>
<td>SLHS 8945</td>
<td>Clinical Practice in Speech-Language Pathology</td>
<td>Supervised clinical practice in speech pathology for graduate students. May be repeated for credit.</td>
<td>1-10</td>
<td>Communication Science and Disorders students only</td>
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<td>SLHS 8960</td>
<td>Directed Reading in Speech, Language and Hearing Science</td>
<td>Independent reading; reports.</td>
<td>1-3</td>
<td>Instructor's consent</td>
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<tr>
<td>SLHS 9050</td>
<td>Research in Speech, Language and Hearing Science</td>
<td>Independent research leading to a report but not to a thesis or dissertation.</td>
<td>1-99</td>
<td>Instructor's consent</td>
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<tr>
<td>SLHS 9090</td>
<td>Research in Speech, Language and Hearing Science</td>
<td>Research leading to thesis or dissertation. Graded on a S/U basis only.</td>
<td>1-99</td>
<td>Instructor's consent</td>
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</tbody>
</table>