**SPEECH AND HEARING SCIENCE (SPHR)**

**Explanation of Course Numbers**

- Courses in the 1000s are primarily introductory undergraduate courses.
- Those in the 2000s to 4000s are upper-division undergraduate courses that can also be taken for graduate credit with permission and additional work.
- Those in the 6000s and 8000s are for master’s, doctoral, and professional-level students.
- The 6000s are open to advanced undergraduate students with approval of the instructor and the dean or advising office.

**SPHR 1000. Dean’s Seminar. 3 Credits.**
The Dean’s Seminars provide Columbian College first-year students focused scholarship on specific intellectual challenges. Topics vary by semester; see department for more details.

**SPHR 1011. Voice and Diction. 3 Credits.**
Development of naturalness, correctness, and clarity in conversation through the study of phonetics, rate, volume, pitch, and quality in preparation for performance. Laboratory fee.

**SPHR 1071. Foundations of Human Communication. 3 Credits.**
An introduction to the fundamental principles of the biology of speech, hearing and language, language structure and use, and human communicative interaction. Practice in the identification of specific verbal and nonverbal aspects of communication behavior.

**SPHR 1071W. Foundations of Human Communication. 3 Credits.**
An introduction to the fundamental principles of the biology of speech, hearing and language, language structure and use, and human communicative interaction. Practice in the identification of specific verbal and nonverbal aspects of communication behavior. Includes a significant engagement in writing as a form of critical inquiry and scholarly expression to satisfy the WID requirement.

**SPHR 1072. Multicultural Issues in Human Communication. 3 Credits.**
The influences of culture and bilingualism on language development and use, and on communicative interaction; experimental and ethnographic methods for studying language and communication in a multicultural society.

**SPHR 1081. American Sign Language I. 3 Credits.**
Development of basic communication skills, with appropriate vocabulary and grammatical structures; emphasis on comprehension skills.

**SPHR 1082. American Sign Language II. 3 Credits.**
Continuation of SPHR 1081. Development of basic communication skills, with appropriate vocabulary and grammatical structures; emphasis on comprehension skills. Prerequisite: SPHR 1081.

**SPHR 1084. Perspectives in Deaf Culture. 3 Credits.**
Introduction to the Deaf community as a linguistic and cultural minority group. The roles of deaf people in the larger society, including political activism. Generational differences concerning education, socioeconomic status, medical issues, and language.

**SPHR 2083. American Sign Language III. 3 Credits.**
Continuation of SPHR 1082. Development of basic communication skills, with appropriate vocabulary and grammatical structures; emphasis on comprehension skills. Prerequisite: SPHR 1082.

**SPHR 2101. Research Methods. 3 Credits.**
Introduction to fundamental research principles (e.g., hypothesis testing, sampling, validity and reliability), designs (e.g., experiments, case studies), and methods (e.g., behavioral observations, acoustic and physiologic measurements, neuro-imaging) used in the study of speech, language, and hearing. Prerequisites: SPHR 1071.

**SPHR 2102. Neural Substrates-SpHr & Lang. 3 Credits.**

**SPHR 2104. Speech and Language Disorders. 3 Credits.**
Survey of the nature and causes of developmental and acquired disorders of speech and language. Emphasis on prevention and effective communication with persons having a speech-language impairment.

**SPHR 2104W. Speech and Language Disorders. 3 Credits.**
Survey of the nature and causes of developmental and acquired disorders of speech and language. Emphasis on prevention and effective communication with persons having a speech-language impairment. Includes a significant engagement in writing as a form of critical inquiry and scholarly expression to satisfy the WID requirement.

**SPHR 2105. Anatomy and Physiology for Speech and Hearing. 3 Credits.**
Anatomy and physiology of the respiratory, phonatory, articulatory, and resonatory subsystems of speech; swallowing; cranial nerves.

**SPHR 2106. Anatomy and Physiology for Speech and Hearing II. 3 Credits.**
Anatomy of the auditory and vestibular systems; physiology of hearing; anatomy of the brain and spinal cord; physiology of the nervous system.

**SPHR 2107. Acoustics. 3 Credits.**
This course focuses on speech acoustics, with emphasis on how the speech signal is produced and the elements of speech important for speech perception. Recommended background: Prior or concurrent registration in SPHR 2105 and SPHR 2136.
SPHR 2108. Introduction to Audiology. 3 Credits.
Survey of the field of audiology, including the measurement of hearing, the nature and causes of hearing impairment, hearing aids and habilitation/rehabilitation of the hearing impaired. SPHR 2106 may be taken as a corequisite. Laboratory fee. Prerequisites: SPHR 2106 and SPHR 2107.

SPHR 2117. Hearing and Perception. 3 Credits.
Consideration of the psychoacoustics of the normal auditory system in terms of auditory sensitivity, loudness, pitch, masking, and binaural hearing. Topics in speech perception that build upon psychoacoustics and speech acoustics. Prerequisite: SPHR 2108.

SPHR 2130. Phonetics and Phonological Development. 3 Credits.
Detailed study of English phonetics and phonology; prespeech vocalization and phonological development; multicultural issues in phonological development; intensive practice in phonetic transcription. SPHR 2105 may be taken as a corequisite. Laboratory fee. Prerequisite: SPHR 2105.

SPHR 2131. Language Acquisition and Development. 3 Credits.
Theories of language acquisition; development of language from birth through adolescence; emphasis on development of semantics, syntax, morphology, and pragmatics; multicultural issues in language development. Laboratory fee. Prerequisite: SPHR 2135.

SPHR 2132. Literacy. 3 Credits.
An overview of literacy development (thinking, listening, speaking, reading, spelling, writing) with emphasis on reading and writing development. Prerequisites: SPHR 1071 or SPHR 1071W.

SPHR 2133. Autism. 3 Credits.
How the study of autism and related disorders may shed light on the characteristics of the mind. The broad characteristics of autism spectrum disorders, including cognitive, behavioral, and neural aspects; definitions of typical vs. atypical development; and difficulties associated with diagnosis and treatment.

SPHR 2135. Language: Structure, Meaning, and Use. 3 Credits.
A survey of basic linguistic terminology and the components of language structures. Major topics include language structure (syntax, morphology, phonology), meaning (semantics), and the use of language as a means of communication among individuals (pragmatics).

SPHR 2136. Phonetics. 2 Credits.
An overview of phonetics of American English and an introduction to sounds of languages of the world. General principles of phonetic description and analysis, speech production mechanisms, classification of consonants and vowels of English and other languages, suprasegmental aspects of speech, and acoustic characteristics of speech sounds. Allophonic variation and phonetic characteristics of connected speech and social and regional phonetic variation. Instruction and practice in transcription using the International Phonetic Alphabet.

SPHR 3116. Brain and Language. 3 Credits.
How the brain operates for language production and understanding and how damage to the brain can interrupt neural processes with a variety of neurolinguistic consequences. Neuroimaging and behavioral research that informs the understanding of the bases of neurolinguistic communication disorders. SPHR 2106 may be taken as a corequisite. Prerequisite: SPHR 2106.

SPHR 3199. Selected Topics. 3 Credits.
Topic announced in the Schedule of Classes. May be repeated for credit provided the topic differs.

SPHR 4118. Senior Seminar. 3 Credits.
Critical evaluation of the research literature on speech and hearing; the process of scientific writing and analysis; how research can inform and improve clinical practice. For departmental majors in the senior year. Laboratory fee. Prerequisite: SPHR 1071 or SPHR 1071W or SPHR 2104 or SPHR 2104W.

SPHR 4118W. Senior Seminar. 3 Credits.
Critical evaluation of the research literature on speech and hearing; the process of scientific writing and analysis; how research can inform and improve clinical practice. Includes a significant engagement in writing as a form of critical inquiry and scholarly expression to satisfy the WID requirement. Laboratory fee. Prerequisites: SPHR 1071 or SPHR 1071W or SPHR 2104 or SPHR 2104W.

SPHR 4119. Analysis and Modification of Communication Disorders. 3 Credits.
For department majors in their senior year. Assessment of speaker–listener behavior; acoustic, behavioral, and linguistic properties of speaker intelligibility and credibility; observation, analysis, and modification of speech and language comprehension and expression. Laboratory fee. Restricted to seniors.

SPHR 4196. Independent Study. 1-6 Credits.
Independent research and special projects. Before students are permitted to register for SPHR 4196, they must submit a written proposal of the plan of study and obtain approval of the staff member who will direct the study and of the department chair.
SPHR 6201. Clinical Practicum in Speech-Language Pathology. 1-6 Credits.
Supervised clinical practice in the evaluation and treatment of speech and language disorders; counseling of clients and families; development of treatment plans and writing of evaluation and progress reports. Permission of the instructor required prior to enrollment. May be repeated for up to 6 credits.

SPHR 6202. Clinical Practicum in Audiology. 1-6 Credits.
Supervised clinical practice in behavioral and electrophysiologic assessment of hearing, hearing aid assessment and fitting, and aural rehabilitation; counseling clients and families; writing evaluation and progress reports. Permission of the instructor required prior to enrollment. May be repeated, but may not be taken for more than 6 credits.

SPHR 6205. Professional and Clinical Issues in Speech and Hearing. 1 Credit.

SPHR 6207. Diagnostic Procedures in Speech and Hearing. 3 Credits.
Fundamental philosophical and conceptual issues in the assessment of speech-language functioning across a wide range of disorders and diverse populations. Consideration of how assessment procedures guide treatment decisions.

SPHR 6210. Research in Communication Sciences and Disorders. 1,3 Credit.
Fundamental issues and methods in clinical research; group and single-subject experimental designs; application of clinical research methodology and findings to assessment and treatment. Non-thesis students register for 3 credits; thesis students register for 1 credit concurrent with SPHR 6211. Restricted to graduate students in the speech and hearing science program.

SPHR 6211. Preparing the Thesis Prospectus. 2 Credits.
For first-year graduate students. Introduction to the fundamentals of quantitative research design and procedures in the speech and hearing sciences. Critical evaluation of research in speech and hearing sciences; scientific writing skills; the process and expectations for conducting thesis research. Students register for SPHR 6210 for 1 credit. Restricted to speech and hearing sciences master’s thesis students.

SPHR 6220. Disorders of Articulation and Phonology. 3 Credits.
Survey of the nature and causes of impairments of speech sound production in children and adults. Differential diagnosis of oral motor versus phonological disorders; treatment approaches; identification and modification of regional dialects and foreign accents. Laboratory fee.

SPHR 6221. Neurodevelopmental Disorders of Speech Production. 2 Credits.
Evaluation and treatment of infants and children with neurodevelopmental speech disorders, including cerebral palsy. Emphasis on management of prespeech oral motor and feeding impairments. Laboratory fee.

SPHR 6222. Acquired Neuromotor Disorders of Speech Production. 2 Credits.
Examination of the neuroanatomical and neurophysiological bases and acoustic and perceptual characteristics of acquired dysarthrias and apraxia of speech. Evidence-based approaches to the assessment, differential diagnosis, and treatment of these disorders. Laboratory fee.

SPHR 6230. Pediatric Language and Speech Disorders I. 3 Credits.
Survey of current approaches for assessing and treating language delays and disorders in infants, toddlers, preschoolers, school-age children, and adolescents. Review of standardized, observational, and ethnographic approaches used in language assessment; current models of intervention and service delivery. Laboratory fee.

SPHR 6231. Pediatric Language and Speech Disorders II. 3 Credits.

SPHR 6240. Neurogenic Communication Disorders. 3 Credits.
Differential diagnosis of acquired speech and language disorders, with an emphasis on the aphasias acquired in adulthood. Evidence-based approaches to the assessment and treatment of adult neurogenic language disorders. Laboratory fee.

SPHR 6241. Applied Neuroanatomy. 3 Credits.
Neuroanatomy and neurophysiology of systems underlying speech, language, and hearing. Neuroimaging techniques and investigations. Applications to the assessment and treatment of communication disorders. Laboratory fee.

SPHR 6250. Eval/Treatment-Speech Disorder. 3 Credits.

SPHR 6251. Seminar: Speech Fluency Disorders. 3 Credits.
Consideration of stuttering and other disorders of speech rate and rhythm from developmental, linguistic, physiological, and psychosocial points of view. Investigation of evidence-based approaches to assessment and treatment.

SPHR 6260. Voice Disorders: Evaluation and Treatment. 3 Credits.

SPHR 6261. Seminar: Voice Disorders. 2 Credits.

SPHR 6276. Aural Rehabilitation. 3 Credits.
Habilitation/rehabilitation of the hearing impaired, including auditory training, speech reading, hearing aids, assistive listening devices, communication strategies, and counseling. Laboratory fee.
SPHR 6277. Psychoeducational Management of Children With Hearing Impairment. 3 Credits.

SPHR 6281. Dysphagia. 2 Credits.

SPHR 6282. Augmentative Communication and Computer Applications in Communication Disorders. 2 Credits.
Principles of assessment, development, and selection of augmentative and alternative communication systems; application through case studies. Computer applications, including review of selected hardware and software and selection criteria. Laboratory fee.

SPHR 6283. Multicultural Perspectives in Communication Development and Disorders. 2 Credits.
Application of culturally appropriate and theoretically based speech and language procedures to clinical assessment and intervention with multilingual/multicultural populations.

SPHR 6284. Autism. 2 Credits.
The various facets of Autism Spectrum Disorder (ASD); clinical aspects and how speech-language pathologists are involved in the assessment, diagnosis, and treatment of ASD; the relationship between typical cognitive and brain development throughout the lifespan and how it is manifested in ASD. Restricted to graduate students.

SPHR 6290. Selected Topics in Clinical Audiology. 1-3 Credits.
Advanced study of selected theoretical and clinical issues. May be repeated, but may not be taken for more than a total of 6 credits.

SPHR 6291. Selected Topics in Speech-Language Pathology. 1-3 Credits.
Advanced study of selected theoretical and clinical issues regarding various aspects of practice in speech-language pathology. May be repeated but not for more than a total of 6 credits.


SPHR 6998. Thesis Research. 2 Credits.
SPHR 6999. Thesis Research. 2 Credits.