

Speech & Hearing Science

Speech and hearing science is the study of normal functioning and disorders of the auditory system, the speech mechanism, and language processing. It is a diverse field with connections to a number of other disciplines, including anatomy, physiology, psychology, linguistics, medicine, and education. Students pursuing a major in speech and hearing science are introduced both to basic and applied research and to clinical applications. Ultimate career paths can include speech science, language science, hearing science, speech-language pathology, or audiology.

Audiologists specialize in the prevention, assessment, and rehabilitation of hearing and balance disorders. They use a variety of testing devices and methodologies to measure an individual's hearing sensitivity and balance function. When disorders exist, the audiologist determines the nature and extent of the disorder and recommends appropriate treatment, including the fitting of hearing aids, cochlear implants or other assistive devices. Audiologists may also design and conduct hearing conservation programs for workers or work with school systems to ensure that classroom acoustics are conducive to learning. Some engage in research on the evaluation and treatment of disorders, and others work with industry to design hearing instruments or testing equipment.

Speech-Language Pathologists assess and treat persons of all ages with speech, language, voice, and fluency disorders. They may also work with people who have oral motor problems that cause eating and swallowing difficulties. They use special instruments, as well as written and oral tests, to determine the nature and extent of impairment, and to record and analyze irregularities in language, speech, swallowing and respiration. For individuals with little or no speech, speech-language pathologists select alternative communication systems, including automated devices and sign language, and teach their use. Entry level positions require at least a Masters degree.

Audiologists and speech-language pathologists work closely with physicians, teachers, psychologists, social workers, rehabilitation counselors, and other members of an interdisciplinary team, but they are autonomous and do not work under direct medical supervision.

For professional certification as a speech-language pathologist a master's degree is necessary. All states that license SLP professionals require master's level training. In addition, the American Speech-Language-Hearing Association (ASHA) requires both completion of a master's degree and a year of clinical internship

(Clinical Fellowship) for the certificate of clinical competence (CCC) in Speech-Language Pathology.

Although requirements for licensure vary from State to State, all states require a graduate degree, and many require a doctoral degree to practice Audiology. ASHA certification (CCC-A) and licensure in the State of Ohio require a doctoral degree (AuD or equivalent).

Speech-Language Pathologists and Audiologists provide professional services in:

- public and private schools
- hospitals
- private practice offices
- rehabilitation centers and nursing care facilities
- community clinics
- college and university clinics
- state and local health departments
- state and federal government agencies
- home care
- adult day care centers
- centers for the developmentally disabled
- research laboratories
- industries

Hearing, speech, and language scientists conduct basic and applied research related to human communication processes. They may study speech or music perception, the ecological impact of sound on humans, or the normal processes underlying the production of speech and the use of language. Speech, language and hearing scientists may use either behavioral or biomedical research protocols in their work. Many projects seek a better understanding of normal language, hearing or speech processes, and often the ultimate goal of the research is to address disorders of human communication. To work independently and receive grant funding for their research, most hearing, speech, or language scientist hold the PhD degree. Often individuals with a masters or professional doctorate continue into the PhD program.

How to major in Speech and Hearing Science at Ohio State

The first step for a student interested in Speech and Hearing Science is to see a counselor in the Colleges of the Arts and Sciences (ASC) office in Denney Hall. This counselor will work with the student to set up a program of study to begin General Education Curriculum (GEC) requirements. Prospective majors should include coursework in biology, psychology, and mathematics (college algebra and trigonometry) in their GEC plan.

The student should then see an advisor in the Department of Speech and Hearing Science in Pressey Hall to plan coursework for the student's major program. It is extremely important to maintain close contact with both ASC and SHS advisors throughout the student's progress at Ohio State.

College requirements specify completion of at least four quarters of a foreign language. American Sign Language can meet this requirement. Students wishing to take American Sign Language in order to receive foreign language credit can take the ASL series (ASL 101, 102, 103 and 104) to fulfill this requirement.

Speech & Hearing Science Requirements

Core Requirements - Typically, students begin the major by taking Speech and Hearing Science 230, Introduction to Communication and its Disorders. This five-hour course may be taken concurrently with other lower-level courses in the major.

Students take eight core courses and an additional 10 upper-level credit hours in Speech and Hearing Science (600-700 level). These additional hours must be approved by a Speech and Hearing Science advisor. Lastly, students must choose a minimum of three credit hours (300-level or above) in a human development course.

Co-Curricular Opportunities

Students may participate in research and, as part of their major, will observe the clinical activities of speech-language pathologists and audiologist (when taking Speech and Hearing 360, Clinical Observation).

Speech & Hearing Science Requirements

This is a sample list of classes a student will take to pursue a degree in speech and hearing science. Since university students need more than a specific education in a narrow field, they also will take classes to complete the General Education Curriculum (GEC). The GEC will allow students to develop the fundamental skills essential to collegiate success across major programs. Course work options satisfying the GEC often come from a variety of academic areas of study allowing students to tailor their GEC toward their interests. Note: This sample represents one of several possible paths to a degree in speech and hearing science. Consult the departmental web site, www.sphs.osu.edu, for details.

Freshman Year:

First-Year English Composition	5
Math 148	5
Foreign Language / ASL	10
Minor/Electives	20

Introduction to Communication Disorders [SHS 230]	5
SBS Survey	1
Freshman Seminar	<u>1</u>
Total hours	47

Sophomore Year:

Principles of Phonetics [SHS 320]	5
Language Development [SHS 330]	5
Bioacoustics [SHS 340]	5
Statistics 135	5
Second Writing Course	5
Minor/Electives	<u>20</u>
Total hours	45

Junior Year:

Observation in Comm. Disorders [SHS 360]	5
Introduction to Speech Science [SHS 420]	5
Introduction to Hearing Science [SHS440]	5
Human Development elective	4
Minor/Electives	<u>25</u>
Total hours	44

Senior Year:

Introduction to S-LP [SHS 520]	5
Introduction to Audiology [SHS 540]	5
Speech and Hearing Science	
Upper-Level Electives [SHS 7##]	10
Minor/Electives	<u>25</u>
Total hours	45

The Minor in Speech and Hearing Science

This is a 25 credit minor. Fifteen of the 25 credits are required of all students and include the following three courses, which are also required of all majors:

- A. Introduction to Communication Disorders SHS230
- B. Principles of Phonetics SHS320
- C. Bioacoustics SHS340

Following the satisfactory completion of these three courses, students will choose one of four options, each of which will supply the remaining 10 credits.

Option 1. For students interested in Speech-Language Pathology.

- A. Introduction to Speech Science SHS420
- B. Introduction to S-LP SHS520

Option 2. For students interested in Audiology.

- A. Introduction to Hearing Science SHS440
- B. Introduction to Audiology SHS540

Option 3. For those students interested in the field as it relates to multicultural and disability issues.

- A. Improving Intercultural Speech-Language Skills SHS310
- B. Disability Studies in Context SHS510

Option 4. For students interested in Speech and Hearing Science.

- A. Introduction to Speech Science SHS420
- B. Introduction to Hearing Science SHS440

Administration and Advising

The Minor in Speech and Hearing Science is listed in the OSU Bulletin and administered by the Undergraduate Studies Committee of the Department. To declare the minor, students should call 292-8207 and make an appointment with an undergraduate advisor.

Honors & Scholars Programs

The majority of students pursuing honors in speech and hearing science do so by completing a senior honors thesis, an option that provides talented students with the opportunity to complete a research project tailored to the student's interests. Working under the direction of a faculty member, students read extensively from the body of existing research on their particular topic, and learn laboratory and/or clinical skills that include interacting with state-of-the-art computers and equipment. Students are introduced to issues of research design, and learn to analyze and present the data they collect. Finally, they acquire important writing skills in preparing the thesis document, and develop oral presentation skills by defending their research projects in a thesis defense. This option is very popular with majors in speech and hearing science: we are proud that each year between 10 and 20 percent of all our graduating seniors elect to complete a thesis. Virtually all of these students go on to pursue graduate work in audiology or speech-language pathology. The quality of thesis work is so high that many of our students present their work at national meetings of major professional societies in the discipline, including the American Speech-Language-Hearing Association, the Acoustical Society of America, and the American Academy of Audiology. In addition, our students often have the opportunity to publish their work in prestigious peer-reviewed journals in the discipline.

The Department of Speech & Hearing Science has a strong national and international reputation and is currently ranked among the top 15 programs in both audiology and speech-language pathology in the last U.S. News and World Report survey. Its faculty includes world-class scholars who have served on editorial boards of major journals, review boards of the National Institutes of Health, and as officers of major professional organizations (including the American Speech-Language-Hearing Association). Graduates have instant recognition of their accomplishments and abilities when applying to graduate programs or to their first jobs and they can get letters of recommendation from some of the best known scholars in the discipline. The Department emphasizes research at all levels and provides undergraduate students with many opportunities to conduct research in either speech-language or hearing, allowing them to work directly with faculty in their labs.