

*Speech and Hearing Science
Undergraduate Handbook,
2011-2012*

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What is Speech and Hearing Science?

Speech and Hearing Science is the study of normal and disordered functioning of the auditory system, the speech mechanism, and language processing. It is a diverse field which draws upon a number of other disciplines, including anatomy, physiology, psychology, linguistics, physics, engineering, 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-Language Pathology, Audiology, or Speech, Language, and Hearing Science.

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 Master's degree.

Audiologists specialize in the prevention, assessment, and rehabilitation of hearing disorders. They use a variety of testing devices to measure an individual's hearing sensitivity. When hearing loss exists, they determine the nature and extent of the hearing loss and recommend appropriate treatment, including hearing aids or other assistive devices. Audiologists also test noise levels in workplaces and conduct hearing protection programs. Entry level positions require at least a Doctoral degree (PhD. or AuD.).

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 development and use of language. Speech, language and hearing scientists may use either behavioral or biomedical research protocols in their work. While many projects seek a better understanding of normal language, hearing or speech processes, 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 scientists hold the PhD degree. Some individuals with a masters or professional doctorate continue into the PhD program.

Speech and Hearing Science at Ohio State

The Department of Speech and Hearing Science at Ohio State can trace its roots to the Department of Rhetoric founded in 1892, and the Department of Phonetics founded in 1930. In 1936, those departments were merged into the Department of Speech with Professor G. Oscar Russell as the head of the phonetics area. Reorganization in 1948 produced five areas in the Speech Department, including Speech Correction and Hearing Therapy, and Education of the Deaf. In 1965, the Speech and Hearing Science Section was reorganized under the leadership of Professor John Black. After 60 years in Derby Hall, the Speech and Hearing Science Section moved to Pressey Hall in 1990 and in 1993 became the Department of Speech and Hearing Science. Since 1968 the unit has been a part of the Division of Social and Behavioral Sciences in the College of Arts and Sciences.

Career opportunities for Speech and Hearing Science majors

Career opportunities for persons with a bachelor's degree in Speech and Hearing Science are comparable to those for students with undergraduate degrees in related fields, such as psychology, sociology, linguistics, or other liberal arts and sciences degrees. While many continue into graduate programs in Audiology or Speech-Language Pathology, others may choose to pursue careers in teaching or other areas in the health professions. Because the degree is a broadly-based liberal arts degree, it could serve as a basis for entry into careers in education, law, medicine, business, government, or industry.

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

They provide professional services in:

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

It is important to note that for professional certification and state licensure as a speech-language pathologist a master's degree is necessary. All states that license speech-language pathologists 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.

Audiologists practice in many of the same settings as speech-language pathologists, but with a greater representation in such settings as hospitals and clinics, or private practices. 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).

Hearing, speech, and language scientists are found primarily in universities, research institutions, government agencies, and industry. There are no specific credentialing requirements; however, most positions will specify a graduate degree, typically a PhD.

Graduate School

Admission to most graduate programs is very competitive. Undergraduate majors in Speech and Hearing Science should begin thinking about graduate programs during their junior year. Students are encouraged to meet with a faculty member in Speech and Hearing Science, to discuss possible graduate programs that match their interests and abilities.

In addition, students should plan to take the Graduate Record Examination (GRE) during the autumn quarter of the senior year. Most graduate programs in Speech and Hearing will require the GRE, and will base decisions for admission on GRE scores, GPA, and letters of recommendation

from faculty members in the student's program. Students should contact faculty members for recommendations before the autumn quarter of the senior year.

For students who do not plan to attend graduate school immediately, alternative career options are available. Students should contact an advisor in Speech and Hearing Science to discuss alternatives to graduate school. In addition, the Arts and Sciences Career Office in Townsend Hall can provide information about job opportunities for students with an Arts and Sciences degree.

Employment Outlook

Employment of speech-Language pathologists and audiologists is expected to increase faster than the average for all occupations through the year 2015. Recent estimates place audiology in the top 20 growth professions, and speech-language pathology in the top 10. Employment in the health care industry is projected to grow faster than the average for all occupations, while employment in education is expected to grow only as fast as the average.

The American Speech-Language-Hearing Association (ASHA) web site provides timely information about market trends for Audiologists and Speech-Language Pathologists. Students can get the most up-to-date information from that site: www.asha.org/careers, including salary data collected by ASHA for audiologists and speech-language pathologists in a variety of work roles and settings.

How to major in Speech and Hearing Science at Ohio State

The first step for a student interested in majoring in Speech and Hearing Science is to see a counselor in the College of Arts and Sciences office in 100 Denney Hall. The ASC counselor will work with the student to set up a program of study to complete General Education Curriculum (GEC) requirements. **Prospective majors must take Math 148 (or its equivalent), and Biology 101 or 113 before enrolling in Speech and Hearing Science classes beyond SHS 230. Math 148 is a prerequisite for SHS 340.**

After meeting with the ASC advisor, the prospective Speech and Hearing Science major should meet with 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.**

Speech and Hearing Science Requirements

As a prerequisite to declaring a major in Speech and Hearing Science, students must complete **SHS 230 Introduction to Communication and Its Disorders**. This five-hour course may be taken concurrently with other lower-level courses in the major, e.g., SHS 320 or 340. The following courses are required to complete the major:

SHS 320	Principles of Phonetics
SHS 330	Language Acquisition
SHS 340	Introduction to the Science of Sound
SHS 360*	Observation in Communication Disorders— Speech-Language Pathology and Audiology
SHS 420[#]	Introduction to Speech Science
SHS 440[#]	Introduction to Hearing Science
SHS 520	Introduction to Speech-Language Pathology
SHS 540	Introduction to Audiology

Elective Courses**

a) 3 credit hours (300 level or above) in a human development course,

Recommended human development courses:

- Psychology 340**
- Human Development Family Science 364**
- Allied Medicine 425**
- (Other courses only if approved by advisor)

**** The courses chosen to fulfill the human development and upper level speech and hearing course requirements should be taken during the junior or senior year.**

b) **Senior Electives:** 10 credit hours in Speech and Hearing Science at the 600- or 700 level approved by a Speech and Hearing Science advisor, normally taken after the required courses.

Recommended Speech and Hearing Science upper level courses**

- SHS 605 Multicultural Aspects of Communication Disorders UG 5**
- SHS 734 Introduction to Aural Rehabilitation UG 5**
- SHS 765 Neurology of Communication**
- SHS 785 Research methods I**
- SHS 714 Introduction to Sign Language Systems**

Sample Curriculum

Freshman Year

Coursework toward GEC requirements (including: Biology and Mathematics 148)

Sophomore Year

SHS 230	none
SHS 320	none
SHS 330	none
SHS 340	Math 148
SHS 360*	SHS 230

Prerequisites

Junior Year **

SHS 420 [#]	SHS 320, 340 & biology
SHS 440 [#]	SHS 340 & biology
Human Development	
SHS 360*	SHS 230
SHS 520 (or SHS 540)	SHS 320,330,420 & 360

Senior Year **

SHS 540 (or SHS 520)	SHS 360* & 440
Upper Level Elective SHS 605	SHS 230 or 330
Upper Level Elective SHS 734	SHS 540
Upper Level Elective SHS 714	none
Other SHS 700-level classes	Permission of Instructor

* SHS 360 could be taken during the sophomore or junior year at a time to fit the student's schedule. Please note: SHS 360 requires that each student complete at least 25 hours of supervised observation in an approved clinical site. Department policy permits students to complete up to 10 hours of observation before enrolling in SHS 360, provided that the observation is properly documented. Documentation must include: number of hours, type of disorder, treatment or evaluation, age of patient(s), and other relevant information about the observation experience. It must be signed by the supervising Speech-Language Pathologist or Audiologist and include their ASHA CCC number and state license number. A self-enrollment CARMEN site is available to record clinical observation hours. Contact an SHS undergraduate advisor for information about enrolling in the CARMEN site.

IMPORTANT: All Speech and Hearing Science majors must attain a grade of C- or higher in each of the courses listed above. If a C- is not attained, the course must be repeated. No substitutions for the core requirements are permitted. Students who must repeat a course should contact an advisor in Speech and Hearing Science to determine when the course will be repeated.

Quarter-to-Semester conversion[#]

Please note that the University is in the process of converting from a Quarter Academic Calendar to a Semester Calendar. This conversion is schedule to begin during the Summer Term of 2012. The content of most of the required courses for the Speech and Hearing Science Major (or Minor) will **not** be changed in this process, with exception of SHS 420 and SHS 440. The content of SHS 420 and SHS 440 will not be changed but the courses will be re-titled. Students are advised to take **both** SHS 420 and SHS 440 either before the calendar change, or after the change to avoid problems related to a perception of gaps in content.

Advising

Students who major in Speech and Hearing Science use a dual advising system. Advising for courses required to complete GEC or College of Arts and Sciences requirements will be done through the ASC advising service. Advising for Speech and Hearing Science major requirements will be done by faculty or staff members in the department. To make an appointment to see an undergraduate advisor in the department, email shs_ug_advisor@osu.edu or call 292-8207.

All prospective majors in Speech and Hearing Science must meet with a SHS advisor when formally declaring the major to complete a major program form, outlining the course of study. Students are required to see an advisor one quarter prior to graduation, for revisions in the major program form and completion of paperwork for graduation. However, students are encouraged to see an advisor in the department at least once a year, to ensure that their major program is proceeding satisfactorily, or to discuss graduate school, thesis, or other topics.

Honors program

The honors program is an enhancement of the basic liberal arts degree for the Speech and Hearing Science major. Students in the honors program will take enriched honors courses, and will complete an honors contract leading to graduation with honors in the Liberal Arts (no thesis), or to graduation with distinction (thesis). Eligibility for the honors program in Arts and Sciences requires a 3.4 point GPA, although a slightly lower level is sometimes accepted in special circumstances. We encourage participation in the honors program, because the honors program will provide additional depth to the undergraduate experience, and perhaps strengthen the student's credentials for graduate school.

The Senior Thesis is a special and personal opportunity for a student to grow in knowledge and understanding. The thesis provides a vehicle for students to gain firsthand knowledge of on-going research activities in their own discipline, and allows the student to work closely with a faculty advisor to complete an individual research project matched to the student's interests. Development of a thesis project can be an interesting and rewarding experience, and may enhance the student's record for graduate school. Students can gain 8-15 hours of credit for thesis work, through Speech and Hearing H783. Work on the thesis typically spans 3 quarters of the senior year.

In the past, students in Speech and Hearing Science completing an honors thesis have received Undergraduate Research Scholarships to support their work on the project. These scholarships provide support for costs associated with the research, and are awarded competitively across the college, based on the quality of the project. Deadlines for application for Undergraduate Research Scholarships occur several times each year. In addition, students completing an honors thesis have the opportunity to participate in the Undergraduate Research Forum, a university-wide competition in which students display the results of their thesis work. Prizes are awarded for particularly outstanding work. Contact an advisor in Speech and Hearing Science to obtain more information about the honors program and thesis opportunities. Dr. Michelle Bourgeois is the SHS Honors Advisor (bourgeois.14@osu.edu).

Transfer students

Students who have transferred to Ohio State from another college or university, and who plan to major in Speech and Hearing Science, should contact an undergraduate advisor in Speech and Hearing Science after their arrival at Ohio State. They should bring any paperwork completed by the Admissions Office to their meeting with the advisor, as well as syllabi from speech and hearing coursework completed at other universities. Transfer students may follow a somewhat unusual schedule in attempting to complete the major coursework.

How to minor in Speech and Hearing Science at Ohio State

The Undergraduate Minor in Speech and Hearing Sciences is a complement of the basic liberal arts degree. Its purpose is to educate and promote the awareness of communication disorders. In addition, students completing a minor in Speech and Hearing Science would have some of the prerequisites required to apply for an advanced degree in Speech and Hearing Science completed. To declare the minor, students should meet with an undergraduate advisor in the department. After the coordinating advisor in the Department of Speech and Hearing Science has approved the Minor Program Form, you must file the form with your college or school counselor. For further information about the minor program, contact the Department of Speech and Hearing Science Undergraduate Advisor, shs_ug_advisor@osu.edu, or call 292-8207 for an appointment.

The minor in Speech and Hearing Science consists of 25 credit hours. All minor programs require:

- SHS 230 Introduction to Communication and its Disorders**
- SHS 320 Principles of Phonetics**
- SHS 340 Introduction to the Science of Sound**

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

Option 1 (speech-language pathology): **Option 2 (audiology):**

SHS 420

SHS 440

SHS 520

SHS 540

Option 3 (multicultural/disability):

SHS 510

SHS 605

Option 4 (speech & hearing science):

SHS 420

SHS 440

See the Quarter to Semester Conversion section above.

Student organizations:

NSSLHA

All undergraduate majors in Speech and Hearing Science are encouraged to join the Ohio State chapter of the National Student Speech-Language-Hearing Association (NSSLHA). NSSLHA is the student organization sponsored by the American Speech-Language-Hearing Association (ASHA), which oversees professional certification of audiologists and speech-language pathologists in the United States. The Ohio State chapter typically sponsors a number of activities each quarter for students who are interested in gaining additional information or experience in areas related to Speech and Hearing. Guest speakers, volunteer opportunities, and social activities are all part of NSSLHA's program. In addition, students who join the National NSSLHA (<http://www.nsshl.org/default.htm>) can receive discounts on membership in ASHA when they attain professional status. For more information, visit the OSU NSSLHA web site (nsslha.org.ohio-state.edu) or contact the advisor, Nadine Ocock Whiteman (whiteman.29@osu.edu).

SAA

The Student Academy of Audiology (SAA) welcomes undergraduates interested in exploring further study in audiology. SAA is a student-run organization sponsored by the American Academy of Audiology, the national professional organization for audiologists which seeks to further the profession of audiology in the United States. This is a graduate student organization that welcomes undergraduate involvement. The main purposes of SAA are to increase community awareness of the field of audiology and provide education in topics related to the field such as hearing loss and hearing conservation, and to promote community service among SAA members. Events sponsored by SAA each quarter include social, volunteer, and fundraising opportunities. For further information, contact the advisor, Christy Goodman (goodman.58@osu.edu), or visit the SAA web site at <http://saa.osu.edu/>.

For More Information:

Visit the department web page at: <http://sphs.osu.edu>

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