

*Speech and Hearing Science*  
*Undergraduate Handbook, 2007-2008*

# *Speech and Hearing Science*

## *Undergraduate Handbook, 2007-2008*

### ***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 Masters 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 (Ph.D. or Au.D.).

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. 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 scientist hold the PhD degree. Some individuals with a masters or professional doctorate continue into the PhD program.

### ***What are the 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 should serve as a basis for entry into careers in 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:

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

It is important to note that for professional certification as a speech-language pathologist a master's degree is necessary. All states that license these 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 Year) 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 Ph.D.

## ***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: <http://undergrad.osu.edu/majors.html> .

## ***Salary Trends***

According to the ASHA SLP Healthcare Survey, 2005 and the SLP 2006 Schools Survey the median annual salary for speech-language pathologists was \$60,000 for SLPs working in a healthcare setting and \$52,131 for those working in an educational setting. According to the ASHA Audiology Survey, 2006 the median annual salary; for audiologists, it was \$63,000.

Salaries for speech, language, and hearing scientists are quite variable, depending on the employment setting, and can range from \$35,000 for master's to over \$90,000 Ph.D. graduates. The

ASHA web site has links to survey results with details about work settings, demographics and salary trends that can be accessed by students considering careers in speech-language pathology, audiology or speech, language, or hearing science <http://www.asha.org/about/membership-certification/member-data/> .

### ***High School Preparation***

All freshman applicants are considered within a competitive admission process for Summer, Autumn, and Winter quarters for the Columbus campus. The primary criteria for admission are the completion of the applicant's high school college preparatory program and performance in that program. Upon admission to the university, students can declare a major in Speech and Hearing Science within the Colleges of the Arts and Sciences.

### ***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 office in Denney Hall. This counselor will work with the student to set up a program of study to complete General Education Curriculum (GEC) requirements. Prospective majors should include coursework in biology, psychology, and mathematics in their GEC plan. Students are encouraged to take the highest levels of these courses for which they qualify; in mathematics the lowest acceptable course is MATH 148. MATH 148 is a prerequisite for SHS 340.

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 Speech and Hearing Science 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 and Hearing Science Requirements*

### Core Requirements

As a prerequisite to declaring a major in Speech and Hearing Science, students must complete SHS 230 (AU-SP), “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 needed to complete the major:

		<u>Qtr Offered</u>
SHS 320	Principles of Phonetics	AU, SP
SHS 330	Language Acquisition	WI, SU
SHS 340	Bioacoustics for the Hearing and Speech Sciences	AU, SP
SHS 360*	Observation in Communication Disorders—Speech- Language Pathology and Audiology	All 4
SHS 420	Introduction to Speech Science	AU, SP
SHS 440	Introduction to Hearing Science	WI, SU
SHS 520	Introduction to Speech-Language Pathology	AU, SP
SHS 540	Introduction to Audiology	AU, SP

### Elective Hours

In addition, the students must choose a minimum of 3 credit hours (300 level or above) in a human development course, and 10 credit hours in Speech and Hearing Science at the 600 or 700 level. These additional courses must be approved by a Speech and Hearing Science advisor.

Recommended human development courses: (Other courses as approved by advisor)

Psychology 340  
Human Development Family Science 364  
Allied Medicine 425

Recommended Speech and Hearing Science upper level courses:

	<u>Qtr Offered</u>
SHS 605 Multicultural Aspects of Communication Disorders UG 5	WI
SHS 725 Language Acquisition U G 5	AU
SHS 765 Neurology of Communication	AU
SHS 785 Research methods I	WI

Clinical Courses following 520 or 540

SHS 705 Audiologic Assessment I U G 5	AU
SHS 706 Audiologic Assessment II U G 5	WI
SHS 710 Phonological Processes and Disorders U G 5	AU
SHS 720 Community and Industrial Audiology U G 3	WI
SHS 734 Introduction to Aural Rehabilitation I U G 5	AU
SHS 740 Fluency: Theory and Treatment U G 5	WI
SHS 741 Voice Disorders U G 5	SP

Sign Language Courses

SHS 714 Introduction to Sign Language Systems	All 4
SHS 716 Intermediate Sign Language Systems (714 is prerequisite)	All 4
SHS 718 Conversational Sign Language Course (714 and 716 prereq)	All 4

## ***Sample Curriculum***

### Freshman Year

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

### Sophomore Year

		<u>Credit Hours</u>
Autumn	SHS 230	5
	SHS 320 or SHS 340	5
Winter	SHS 330	5
Spring	SHS 340 or SHS 320	5
		Total = 20

### Junior Year \*\*

		<u>Credit Hours</u>
Autumn	SHS 420	5
Winter	SHS 440	5
	Human Development	3-5
Spring	SHS 360*	5
	SHS 520 or SHS 540	5
		Total = 15-30 (depending on electives)

### Senior Year \*\*

		<u>Credit Hours</u>
Autumn	SHS 540 or SHS 520	5
	Upper Level SHS	5
Winter	Upper Level SHS	5
Spring	Upper Level SHS	5
		Total = 20-25 (depending on electives)

\* SHS 360 is offered every quarter, and could be taken during the sophomore or junior year at a time to fit the student's schedule.

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

**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.

## ***Advising***

Students who major in Speech and Hearing Science will use a dual advising system. Advising for courses required to complete GEC or Colleges of the Arts and Sciences requirements will be done through the ASC advising service in Denney Hall. Advising for Speech and Hearing major requirements will be done by members of the Undergraduate Studies Committee of Speech and Hearing Science. To make an appointment to see an undergraduate advisor in the department, call 292-8207.

All prospective majors in Speech and Hearing Science must see an advisor when formally declaring the major. At this time, a major program form, outlining the course of study, will be completed. 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 is currently at a minimum 3.3 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 also 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 ongoing 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 further enhances 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. Janet Wiesenberger is the SHS Honors Advisor.

### ***Transfer students***

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

### ***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, tours of local facilities, and social activities are all part of NSSLHA's program. In addition, students who join NSSLHA can receive discounts on membership in ASHA when they attain professional status. For more information about NSSLHA at Ohio State, contact Christy Goodman (292-2864 or Goodman.58) or Nadine Ocock (292-3134 or ocock.3), NSSLHA advisors.

## ***Graduate School***

As mentioned above, in order to become a practicing professional audiologist or speech-language pathologist, a master's degree is necessary. Undergraduate majors in Speech and Hearing Science should begin thinking about graduate programs by the beginning of the senior year. Students are encouraged to see an advisor 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. Thus, students should also contact faculty members for recommendations during 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 Brown Hall can provide information about job opportunities for students with an Arts and Sciences degree.

### **For More Information:**

Visit our Web page at: <http://sphs.osu.edu> or call the Department of Speech and Hearing Science at 292-8207 to make an appointment to see an advisor.

Lawrence L Feth, Ph.D. Chair Undergraduate Studies Committee, [feth.1@osu.edu](mailto:feth.1@osu.edu)  
Janet M. Wiesenberger, Ph.D. Honors Advisor, [weisenberger.21@osu.edu](mailto:weisenberger.21@osu.edu)  
Christie Wenning, Undergraduate Advisor, [shs\\_ug\\_advisor@osu.edu](mailto:shs_ug_advisor@osu.edu)