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## **Doctoral Programs in Cognition and Neuroscience, Communication Sciences and Disorders, Psychological Sciences**

<http://bbs.utdallas.edu/>.

### **Faculty**

**Professors:** Hervé Abdi, Peter F. Assmann, James C. Bartlett, Thomas G.R. Bower, Duane Buhrmester, Thomas Campbell, Sandra Chapman, J. Michael Coleman, Christine Dollaghan, W. Jay Dowling, George M. Gerken (emeritus), Richard Golden, John Hart, Susan W. Jerger, Aage R. Møller, Bert S. Moore, George Moushegian (emeritus), Alice J. O'Toole, Margaret T. Owen, Ross J. Roeser, Allen L. Rupert (emeritus), John W. Santrock, Robert D. Stillman, Linda Thibodeau, Emily Tobey, Hanna Ulatowska, Anne van Kleeck, Marion Underwood

**Associate Professors:** Lawrence J. Cauller, William F. Katz, Michael Kilgard, Teresa Nezworski, Pamela Rollins, Melanie Spence, Lucien T. Thompson,

**Assistant Professors:** Marco Atzori, Shayla Holub, Daniel Krawczyk, Christa McIntyre, Mandy Maguire, Candace Mills

**Distinguished Scholar in Residence:** James Jerger

### **Objectives**

The School of Behavioral and Brain Sciences offers doctoral programs in Cognition and Neuroscience, Communication Sciences and Disorders, and Psychological Sciences. Each provides preparation in basic and applied aspects of behavioral and brain sciences. The faculty consists of specialists in developmental psychology, cognitive science, neuroscience, and communication sciences and disorders. Students may specialize in these areas or pursue study across areas as in the study of language development, aging, auditory and visual perception, and behavioral and neural plasticity. Core and specialized courses provide the foundation for a wide spectrum of doctoral research in laboratories, schools, and clinics.

#### **Cognition and Neuroscience**

The doctoral program in Cognition and Neuroscience provides opportunities for disciplinary and interdisciplinary study in the fields of cognitive science and neuroscience. The extensive laboratory resources of the School of Behavioral and Brain Sciences offer students numerous options for research in cellular and systems neuroscience, cognition and perception, and computational modeling of perceptual and neural processes. The doctoral programs in Psychological Sciences and Communication Sciences and Disorders provide additional opportunities for coursework and research experience. For students with interests in cognitive neuroscience, the facilities of the U.T. Southwestern Medical School including its brain imaging facilities are available for basic and clinical research.

#### **Psychological Sciences**

The doctoral program in Psychological Sciences provides opportunities for intensive graduate study in developmental and cognitive psychology. The program also offers strong interdisciplinary linkages to other areas within the School of Behavioral and Brain Sciences, including cognitive science, behavioral neuroscience, and communication sciences and disorders. The primary goal of the program is to prepare research investigators for academic and applied settings. Students work closely with one or more faculty members in a collegial apprenticeship type of relationship. Although there is a core curriculum

that all students fulfill, the program is flexible enough to allow students to individually tailor their studies in creative ways. The opportunities for collaborative research with faculty, as well as a rich array of colloquia and brown-bag seminars, provide a stimulating environment for scholarly development.

### **Communication Sciences and Disorders**

The doctoral program in Communication Sciences and Disorders provides opportunities for graduate study and research in the areas of speech, language, and hearing science and in the disorders which affect speech, language, and hearing. Students have available a wealth of research opportunities in laboratories, clinics, and schools, both on-campus and in the community. Close liaison with the U.T Southwestern Medical Center provides patient access and numerous opportunities for research in medical settings. Coursework and research options within the doctoral programs in Psychological Sciences and Cognition and Neuroscience allow students to pursue interdisciplinary study in areas such as brain imaging, child language, plasticity and recovery, and aging.

## **Facilities**

The offices and research facilities of the School of Behavioral and Brain Sciences are located on the Richardson campus and at the UTD/Callier Center for Communication Disorders on the campus of the UT Southwestern Medical Center at Dallas. Facilities on the Richardson campus include teaching and research laboratories for neuroscience, facilities for the study of child development, and laboratories supporting research in the cognitive sciences. Callier-Richardson also located on the Richardson campus provides speech-language pathology and audiology services to the community and serves as a research and training site for students.

The School of Behavioral and Brain Sciences supports three research centers: The Advanced Hearing Research Center; the Center for Brain Health; and the Center for Brain, Behavior, and Cognition. These centers provide research opportunities for doctoral students in cochlear implants, auditory neuroscience, brain plasticity, and neuroimaging.

## **Admission Requirements**

The University's general admission requirements are discussed [here](#).

Admission to a doctoral program is based on a review of the applicant's GPA, GRE scores, letters of recommendation, and narrative description of research interests and career goals. The admissions committee weighs heavily the match between the applicant's research interests and the research areas available to students in the school. For information about faculty research interests, see our web pages at [bbs.utdallas.edu](http://bbs.utdallas.edu). The GRE score is included in the evaluation of the applicant's record. In general, combined verbal and quantitative scores on the GRE of at least 1000 are advisable based on our experience with student success in the program and most scores are substantially higher. However, there is no minimum cutoff score nor does a score above 1000 assure admission to the program.

Many courses in the graduate programs in Audiology, Applied Cognition and Neuroscience, Communication Disorders, and Human Development and Early Childhood Disorders complement doctoral coursework and, upon a student's admission to the Ph.D. program, can be applied toward the degree. Students should consult with the program office to determine which graduate courses can be applied to the Ph.D.

## Combining the M.S. and Ph.D. Programs

Students seeking clinical certification (CCC) in speech-language pathology in addition to the Ph.D. may combine their masters and doctoral program. An individualized plan of study allows students to earn the M.S. degree in Communication Disorders while meeting requirements for the Ph.D. degree. In addition, students may choose to combine Ph.D. study with master's work in Human Development and Early Childhood Disorders, Applied Cognition and Neuroscience, or with the clinical doctorate in Audiology.

## Degree Requirements

The University's general degree requirements are discussed [here](#).

### COGNITION AND NEUROSCIENCE (Ph.D.)

#### Doctoral Proseminar (6 SCH)

HCS 6302 Issues in Behavioral and Brain Sciences I

HCS 6303 Issues in Behavioral and Brain Sciences II

#### Research Methods (6 SCH minimum)

HCS 6312 Research Methods in Behavioral and Brain Sciences – Part I

HCS 6313 Research Methods in Behavioral and Brain Sciences – Part II

*or*

**Cognition and Neuroscience Core Courses (6 SCH minimum).** Students must take a minimum of one Cognition Core and one Neuroscience Core, choosing from those listed below.

#### 1. Cognition

HCS 6330 Cognitive Science

HCS 6395 Cognitive Psychology

#### 2. Neuroscience

HCS 6346 Systems Neuroscience

HCS 7344 Functional Neuroanatomy

**Advanced Electives (9 SCH minimum).** In addition to completing the 6 SCH core requirement, students will take a minimum of 9 SCH of advanced electives. Any HCS course may count as an advanced elective. This includes core courses (see above), though no course can be counted both as a core and an advanced elective for any single student. Advanced electives are selected by students with the concurrence of their research advisors based on the students' research foci. Depending on a student's background and the requirements of his or her dissertation research, additional advanced electives beyond the 9 SCH minimum will be necessary. Possible research foci and advanced elective courses are listed below.

Research Focus	Cellular Neuroscience	Cognitive Aging	Speech/Language Processing
Advanced Electives	HCS 6340 Cellular Neuroscience HCS 7347 Seminar in Synaptic Physiology	HCS 7367 Aging and Cognition HCS 7351 Aging and the Nervous System	HCS 6367 Speech Perception HCS 7367 Speech Perception Lab HCS 7349 Text

	HCS 7348 Seminar in Cortical Connections	HCS 6333 Memory	comprehension Seminar
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## COMMUNICATION SCIENCES AND DISORDERS (Ph.D.)

### Doctoral Proseminar (6 SCH)

HCS 6302 Issues in Behavioral and Brain Sciences I

HCS 6303 Issues in Behavioral and Brain Sciences II

### Research Methods (9 SCH minimum)

HCS 6312 Research Methods in Behavioral and Brain Sciences – Part I

HCS 6313 Research Methods in Behavioral and Brain Sciences – Part II

Approved Advanced Research Methods/Statistics course

**Core (6 SCR minimum)** Students must complete a minimum of 6 semester credit hours of approved COMD or AUD prefixed courses. Courses meeting this requirement will vary depending on the student's research interests. The requirement may be waived for students holding a graduate degree in the field of speech-language pathology or audiology. Students lacking an adequate foundation in communication sciences may be required to complete more than the 6 SCH minimum of Core coursework.

**Communication Sciences and Disorders (3 SCH minimum)** All students must complete a minimum of 3 SCH of doctoral coursework offered through the Ph.D. program in Communication Sciences and Disorders.

**Supplemental Coursework (12 SCH minimum)** All students must complete an additional minimum of 12 SCH's of doctoral level courses and seminars. Courses may be selected from doctoral level coursework offered through the Ph.D. programs in Communication Sciences and Disorders or, with advisor approval, from the doctoral coursework offered through the Ph.D. programs in Cognition and Neuroscience and Psychological Sciences.

## PSYCHOLOGICAL SCIENCES ( Ph.D.)

### Doctoral Proseminar (6 SCH)

HCS 6302 Issues in Behavioral and Brain Sciences I

HCS 6303 Issues in Behavioral and Brain Sciences II

### Research Methods (6 SCH minimum)

HCS 6312 Research Methods in Behavioral and Brain Sciences – Part I

HCS 6313 Research Methods in Behavioral and Brain Sciences – Part II

**Psychological Science Core Courses (12 SCH minimum).** Students will declare a major in Developmental Psychology, Cognition, or Social/Personality Psychology. Students must take four core courses from those listed below. Two of these courses must be selected from the major area, and the four courses must be selected from at least two of the four areas listed.

1. Developmental Psychology

HCS 6350 Social Development  
HCS 6331 Cognitive Development  
HCS 6368 Language Development

2. Cognition

HCS 6395 Cognitive Psychology  
HCS 6330 Cognitive Science  
HCS 6333 Memory

3. Social/Personality Psychology

HCS 6371 Social Psychology  
HCS 6327 Personality

4. Neuroscience

HCS 6346 Systems Neuroscience  
HCS 7344 Functional Neuroanatomy

**Advanced Electives (12 SCH minimum).** After completing the 12 SCH core requirement, students will take an additional 12 SCH of advanced electives. Any core course (see above) may count as an advanced elective (though it cannot count both as a core course and as an elective). One of these 3-hour elective courses must be an advanced research methods course. Students will declare a major in Developmental Psychology, Cognition, or Social/Personality Development and will take a minimum of four courses (cores and electives) in the major area. Students may enroll in other advanced electives from the other doctoral course offerings available in the School, including courses in language and communication. Additional advanced electives are available each semester.

## INDIVIDUALIZED DEGREE PLANS

The option of creating an individualized degree plan is available to students whose interests cut across the three degree areas. One such plan offers a focus in Child Language Development and Disorders. This focus allows students to take advantage of unique interdisciplinary research opportunities in the School's demonstration programs for infants, toddlers, and preschool children. Individualized plans should be drafted in consultation with the student's research advisor and require the approval of the Graduate Studies Committee.

## ADDITIONAL REQUIREMENTS

All students must complete the Qualifying Project/Qualifying Paper requirements of the Ph.D. degree sought. The successful defense of a written dissertation completes the requirements for the degree.