Communication Science and Disorders

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Communication Science and Disorders includes the study of normal language, speech, and hearing across the life span, as well as communication disorders that result from biological, environmental, and behavioral factors. Communication Science and Disorders includes the professions of speech-language pathology and audiology.

Speech-language pathologists evaluate the speech and language of children and adults to determine whether problems exist in such areas as voice, articulation, fluency, and receptive or expressive language. They also plan and carry out programs for the treatment of these problems.

Audiologists evaluate hearing, identify hearing loss, and participate in the rehabilitation of persons with hearing impairments.

The professions of speech-language pathology and audiology require master’s or doctoral degrees. Acceptance to an undergraduate program does not guarantee acceptance to a graduate program. Refer to the Graduate Catalog for information about the MHS degree [catalog.missouri.edu/undergraduategraduate/schoolofhealthprofessions/communicationscienceanddisorders/mhs-communication-science-disorders](http://catalog.missouri.edu/undergraduategraduate/schoolofhealthprofessions/communicationscienceanddisorders/mhs-communication-science-disorders).

Faculty

**Associate Professor** J. C. Goodman**, S. A. Wagovich**
**Assistant Professor** R. Botezatu**, M. Dietrich**, E. S. Kelley**, M. Kuruvilla-Dugdale**, N. A. Smith**
**Associate Clinical Professor** D. R. Fritz*, L. B. Lawrence*, B. A. McLAY*
**Assistant Clinical Professor** C. Baker, G. Hull, G. Nolan
Clinical Instructor L. M. Frye
Research Associate Professor Emerita L. S. Day*

* Graduate Faculty Member - membership is required to teach graduate-level courses, chair master's thesis committees, and serve on doctoral examination and dissertation committees.

** Doctoral Faculty Member - membership is required to chair doctoral examination or dissertation committees. Graduate faculty membership is a prerequisite for Doctoral faculty membership.

Undergraduate

- BHS in Communication Science and Disorders [catalog.missouri.edu/undergraduategraduate/schoolofhealthprofessions/communicationscienceanddisorders/bhs-communication-science-disorders](http://catalog.missouri.edu/undergraduategraduate/schoolofhealthprofessions/communicationscienceanddisorders/bhs-communication-science-disorders)

Graduate

- MHS in Communication Science and Disorders [catalog.missouri.edu/undergraduategraduate/schoolofhealthprofessions/communicationscienceanddisorders/mhs-communication-science-disorders](http://catalog.missouri.edu/undergraduategraduate/schoolofhealthprofessions/communicationscienceanddisorders/mhs-communication-science-disorders)

About Communication Science and Disorders

The field of Communication Science and Disorders, or CSD, encompasses the related but distinct disciplines of speech-language pathology (SLP), audiology, and speech, language, and hearing sciences (SLHS). Speech-language pathologists and audiologists are professionals educated in human communication and its disorders.

Speech-language pathologists diagnose and treat disorders such as delayed language development, stuttering, articulation, and voice problems. Audiologists specialize in the prevention, identification, assessment, and rehabilitation of hearing disorders. Speech, language, and hearing scientists are professionals concerned with exploring trends in the communication sciences, as well as developing strategies for improving or adding to the knowledge base within the fields of speech-language pathology and audiology.

MU established its first independent master’s and doctoral programs in speech-language pathology and audiology in the 1940s. The MU master’s degree program in speech-language pathology has been continuously accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology since 1966. An active local chapter of the National Student Speech Language Hearing Association is sponsored by the program.

The master’s degree prepares students for national certification in speech-language pathology and for professional clinical practice in both health care and educational settings. The doctoral degree involves a program of research and advanced study beyond the clinical master’s degree in preparation for a career in research and college teaching or administration.

Career Opportunities

A wide variety of work settings are available to speech-language pathologists and audiologists. Possibilities range from hospitals, clinics, and rehabilitation centers to schools, colleges and universities, government agencies, and private practice. Speech, language, and hearing scientists work primarily in colleges and universities, research labs and government agencies. Professional certification in speech-language pathology and audiology is awarded by the American Speech-Language-Hearing Association (ASHA). The master’s degree, which is the entry-level degree for speech-language pathologists, typically takes two years beyond the undergraduate degree. Additional prerequisite
coursework is required for students with undergraduate degrees outside the field. Students wishing to pursue a career in audiology will need to attend a program that offers a clinical doctorate in audiology (AuD), the entry-level degree for audiologists.

Facilities and Resources
The department uses many cooperative facilities in Columbia, both on and off the MU campus, as well as clinical and scientific resources. Among these are the University Hospitals and Clinics, Rusk Rehabilitation Center, Ellis Fischel Cancer Center, Truman Memorial Veterans Hospital, Adult Day Connection, Assistive Technology Evaluation Center, Thompson Center for Autism and Neurodevelopmental Disorders, and Columbia Public Schools.

Other cooperative facilities are available both within and outside the State. The department operates the MU Speech and Hearing Clinic, a diagnostic and treatment center serving individuals with communication disorders from the campus and the community, the MU Robert G. Combs Language Preschool, and the Accent Modification and Pronunciation Program. In addition, there are many research opportunities for students in the laboratories of individual faculty where they may gain experience with sophisticated equipment for research and clinical evaluation in normal and disordered speech, language, and hearing. A master’s thesis option is available to students interested in conducting research.

Funding
All graduate students are considered for available scholarships, fellowships, work-study grants, traineeships and graduate teaching and research assistantships.

C_S_D 1060: Human Language
(same as ANTHRO 1060, LINGST 1060 and ENGLSH 1060). General introduction to various aspects of linguistic study. Elementary analysis of language data with some attention to application of linguistic study to other disciplines.

Credit Hours: 3

C_S_D 1100: American Sign Language I
Introduction to American Sign Language (ASL). Development of basic expressive and receptive skills in ASL, the manual alphabet, numbers, and signed vocabulary. Includes an overview of ASL syntax and grammar. Course graded on A-F basis only.

Credit Hours: 5

C_S_D 1200: American Sign Language II
This course is designed to increase students' understanding of American Sign Language. Students will increase their sign vocabulary, expressive and receptive skills, an understanding of ASL syntax and grammar. Graded on A-F basis only.

Credit Hours: 5
Prerequisites: C_S_D 1100 or equivalent

C_S_D 2120: Survey of Communication Disorders
Systematic survey of the disorders of speech, language and hearing.

Credit Hours: 3

C_S_D 2150: American Sign Language III
This course expands on vocabulary and signing skills developed in ASL II. Includes review of ASL grammar and extensive discussions of ASL linguistic structure and Deaf culture. Class is conducted entirely in ASL. Course graded on A-F basis only.

Credit Hours: 3
Prerequisites: C_S_D 1200 with minimum grade of C or instructor's consent

C_S_D 3010: American Phonetics
(same as LINGST 3010). Analysis of production and acoustics of the sounds of speech with an emphasis on American English; practice in broad and narrow transcription using the International Phonetic Alphabet.

Credit Hours: 3
Prerequisites: Restricted to Communication Science and Disorders majors only

C_S_D 3020: Normal Language Development
Language development in children and changes in language processing during normal aging. Cognition and language; language learning processes; language sample analysis; relationship between spoken and written language.

Credit Hours: 3
Prerequisites: Communication Science and Disorders majors only

C_S_D 3020W: Normal Language Development - Writing Intensive
Language development in children and changes in language processing during normal aging. Cognition and language; language learning processes; language sample analysis; relationship between spoken and written language.

Credit Hours: 3
Prerequisites: Communication Science and Disorders majors only

C_S_D 3050: Signed English and Communication Development
This course covers research, theory, and methods of using sign language to assist the communication of the Deaf, individuals with disabilities, and hearing learners. Use of sign language to improve literacy and classroom management also will be targeted. No prior experience with any sign language and/or sign system is required. Development of a basic vocabulary in Signed English will be included in this course.

Credit Hours: 3

C_S_D 3120: American Sign Language III
Introduction to American Sign Language (ASL). Development of basic expressive and receptive skills in ASL, the manual alphabet, numbers, and signed vocabulary. Includes an overview of ASL syntax and grammar. Course graded on A-F basis only.

Credit Hours: 5

C_S_D 3150: American Sign Language IV
This course expands on vocabulary and signing skills developed in ASL III. Includes review of ASL grammar and extensive discussions of ASL linguistic structure and Deaf culture. Class is conducted entirely in ASL. Course graded on A-F basis only.

Credit Hours: 3
Prerequisites: C_S_D 3010 with minimum grade of C or instructor's consent

C_S_D 3210: Anatomy and Physiology of the Speech Mechanism
(same as LINGST 3210). Introduction to anatomical and functional aspects of the speech mechanism.

Credit Hours: 3
Prerequisites: Communication Science and Disorders majors only

C_S_D 3220: Speech Acoustics
(same as LINGST 3220). An introduction to the acoustic aspects of speech as they relate to the respiratory, phonatory, resonatory, and articulatory systems.

Credit Hours: 2
Prerequisites: Communication Science and Disorders majors only or instructor's consent
C_S_D 3230: Hearing Science
Introduction to the nature of sound and its measurement; anatomy and physiology of the auditory and vestibular systems; psychoacoustic methods and phenomena.
Credit Hours: 3
Prerequisites: Restricted to Communication Science and Disorders majors only

C_S_D 401: Topics in Communication Science and Disorders
Organized study of selected topics. Subjects and earnable credit may vary from semester to semester. May be repeated with program consent.
Credit Hours: 1-99
Prerequisites: Junior standing and instructor's consent

C_S_D 420: Language Disorders in Children
Overview of language disorders from early childhood through adolescence. Includes language disorders as primary disability and as secondary to other disabilities. Introduction to assessment and intervention.
Credit Hours: 3
Prerequisites: Communication Science and Disorders majors only

C_S_D 420W: Language Disorders in Children - Writing Intensive
Overview of language disorders from early childhood through adolescence. Includes language disorders as primary disability and as secondary to other disabilities. Introduction to assessment and intervention.
Credit Hours: 3
Prerequisites: Communication Science and Disorder majors only

C_S_D 430: Language Disorders of Adults
Introduction to acquired adult language disorders. Review of neuroanatomy/physiology, etiology and symptomatology, with introduction to assessment and treatment procedures.
Credit Hours: 2
Prerequisites: Communication Science and Disorders majors only

C_S_D 4210: Fluency Disorders
Credit Hours: 2
Prerequisites: Communication Science and Disorders majors only

C_S_D 4220: Voice Disorders
Introduction to voice disorders in children and adults. Includes overview of perceptual and instrumental assessment procedures and selected treatment approaches.
Credit Hours: 1
Prerequisites: Communication Science and Disorders majors only

C_S_D 4320: Disorders of Phonology and Articulation
Overview of disorders of use and production of speech sounds with an emphasis on developmental disorders. Introduction to assessment and treatment.
Credit Hours: 3
Prerequisites: Communication Science and Disorders majors only

C_S_D 4330: Introduction to Audiology
Principles and techniques of audiological testing; etiologies of hearing impairment; current technologies in rehabilitation.
Credit Hours: 3
Prerequisites: C_S_D 3230; Communication Science and Disorders majors only or instructor's consent

C_S_D 4340: Aural Rehabilitation
Identification, evaluation, and management of problems associated with hearing impairment in both children and adults. Includes issues related to speech/language development, communication, education, and social factors.
Credit Hours: 3
Prerequisites: Communication Science and Disorders majors only

C_S_D 4340W: Aural Rehabilitation-Writing Intensive
Identification, evaluation, and management of problems associated with hearing impairment in both children and adults. Includes issues related to speech/language development, communication, education, and social factors.
Credit Hours: 3
Prerequisites: Communication Science and Disorders majors only

C_S_D 4430: Neurophysiology for Speech, Language, and Hearing
Principles of basic neurophysiology, emphasizing correlation of structure and function of the nervous system.
Credit Hours: 3
Prerequisites: Communications Science and Disorders majors only

C_S_D 4440: The Cognitive Consequences of Bilingualism
This course is intended to establish an understanding of bilingual language processing and of the consequences of bilingualism on cognition. The course begins by reviewing the individual differences that modulate language processing in monolinguals and the factors that predict good second language learning outcomes in adults. This sets up the stage of an in-depth discussion of the ways in which second language proficiency changes the dynamics of language production and comprehension, as well as the cognitive performance across the lifespan. Students will be introduced to theories and models of bilingual language processing and will learn to evaluate evidence for and
against the bilingual advantage and the benefits of bilingualism in healthy aging and recovery from acquired language deficits, such as aphasia. Students will also learn to identify patterns of language performance that distinguish bilinguals from monolinguals and from individuals with language disorders. Graded on A-F basis only.

**Credit Hours:** 3
**Recommended:** Junior or Senior standing

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**C_S_D 4900: Clinical Observation in Communication Disorders**
Directed clinical observations designed to prepare the student for clinical practicum. Required for professional certification. Graded on a S/U basis only.

**Credit Hours:** 2
**Prerequisites:** Communication Science and Disorders majors only

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**C_S_D 4945: Clinical Apprenticeship in Communication Disorders**
Supervised observation and clinical experience in speech-language pathology or audiology for undergraduates.

**Credit Hours:** 1-3
**Prerequisites:** senior standing and departmental consent. Communication Science and Disorders majors only

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**C_S_D 4950: Research Apprenticeship**
Research apprenticeship with a faculty member, assisting in the development and execution of research in communication processes and disorders. May be repeated to 9 hrs. maximum.

**Credit Hour:** 1-9
**Prerequisites:** instructor's consent

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**C_S_D 4960: Directed Reading in Communication Science and Disorders**
Independent reading; reports.

**Credit Hours:** 1-3
**Prerequisites:** instructor's consent

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**C_S_D 4970: Honors Thesis**
Individual honors thesis on a topic selected with a faculty advisor. Requires planning, conducting, and writing up a research project under the guidance of a faculty member. Successful completion of thesis and maintenance of 3.3 GPA, leads to degree with departmental honors. Graded on A-F basis only.

**Credit Hours:** 3
**Prerequisites:** Senior standing; 3.3 GPA; 3.5 GPA in Communication Science and Disorders courses; instructor's consent. Restricted to Communication Science and Disorders students only

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**C_S_D 7001: Topics in Communication Science and Disorders**
Study of selected topics in speech pathology/audiology. Topic and credit may vary from semester to semester. May be repeated for credit with instructor and departmental consent.

**Credit Hour:** 1-99
**Prerequisites:** instructor's consent

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**C_S_D 7085: Problems in Communication Science and Disorders**
Individual study not leading to thesis or dissertation.

**Credit Hour:** 1-99
**Prerequisites:** instructor's consent

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**C_S_D 7340: Aural Rehabilitation**
(cross-leveled with C_S_D 4340). Identification, evaluation, and management of problems associated with hearing impairment in both children and adults. Includes issues related to speech/language development, communication, education, and social factors.

**Credit Hours:** 3
**Prerequisites:** Communication Science and Disorders majors only

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**C_S_D 7430: Neurophysiology for Speech, Language, and Hearing**
(cross-leveled with C_S_D 4430). Principles of basic neurophysiology, emphasizing correlation of structure and function of the nervous system.

**Credit Hours:** 3
**Prerequisites:** Communication Science and Disorders majors or instructor's consent

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**C_S_D 7440: Language and Development in Infancy**
(cross-leveled with C_S_D 4840). Overview of theory and research on the foundations and development of language in infancy (0 to 2 years), with an emphasis on relevant, interrelated areas of development, individual differences, early recognition of delay, and assessment.

**Credit Hours:** 3

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**C_S_D 7480: The Cognitive Consequences of Bilingualism**
(cross-leveled with C_S_D 4850). This course is intended to establish an understanding of bilingual language processing and of the consequences of bilingualism on cognition. The course begins by reviewing the individual differences that modulate language processing in monolinguals and the factors that predict good second language learning outcomes in adults. This sets up the stage of an in-depth discussion of the ways in which second language proficiency changes the dynamics of language production and comprehension, as well as the cognitive performance across the lifespan. Students will be introduced to theories and models of bilingual language processing and will learn to evaluate evidence for and against the bilingual advantage and the benefits of bilingualism in healthy aging and recovery from acquired language deficits, such as aphasia. Students will also learn to identify patterns of language performance that distinguish bilinguals from monolinguals and from individuals with language disorders. Graded on A-F basis only.

**Credit Hours:** 3

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**C_S_D 7500: Topics in Communication Science and Disorders**
Study of selected topics in speech pathology/audiology. Topic and credit may vary from semester to semester. May be repeated for credit with instructor and departmental consent.

**Credit Hour:** 1-99
**Prerequisites:** instructor's consent, instructor's consent

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**C_S_D 7002: Developmental Language Disorders**
Credit Hours: 3  
Prerequisites: Communication Science and Disorders students only

C_S_D 8030: Acquired Language Disorders  
Etiology, symptomatology, assessment and rehabilitation of acquired neurogenic communication disorders in aphasia, traumatic brain injury, and dementia.  
Credit Hours: 3  
Prerequisites: Communication Science and Disorders students only

C_S_D 8050: Research in Communication Science and Disorders  
Independent research leading to a report but not to a thesis or dissertation.  
Credit Hour: 1-99  
Prerequisites: instructor's consent

C_S_D 8085: Problems in Communication Science and Disorders  
Individual study not leading to thesis or dissertation.  
Credit Hour: 1-99  
Prerequisites: instructor's consent

C_S_D 8090: Research in Communication Science and Disorders  
Research leading to thesis or dissertation.  
Credit Hour: 1-99  
Prerequisites: instructor's consent. Graded on a S/U basis only

C_S_D 8200: Motor Speech Disorders  
Etiology, symptomatology, epidemiology, and prognosis of motor speech disorders resulting from acquired neurological damage. Emphasis on clinical assessment and rehabilitation procedures. Graded on A-F basis only.  
Credit Hours: 3  
Prerequisites: Communication Science and Disorders students only

C_S_D 8210: Disorders of Fluency  
Identification and remediation of fluency disorders in children and adults.  
Credit Hours: 3  
Prerequisites: Communication Science and Disorders students only

C_S_D 8225: Voice Science and Voice Disorders  
Diagnosis and management of communicative disorders resulting from pathologies or misuse of the phonatory system. Includes experience with pertinent laboratory instrumentation. Graded on A-F basis only.  
Credit Hours: 3  
Prerequisites: restricted to MHS CSD students; or with instructor's consent

C_S_D 8230: Dysphagia  
Etiology, symptomatology, and epidemiology of acquired and developmental swallowing disorders (dysphagia). Emphasis on instrumental and non-instrumental methods for assessing and treating dysphagia.  
Credit Hours: 3  
Prerequisites: Communication Science and Disorders students only

C_S_D 8240: Orofacial Anomalies  
Credit Hours: 1  
Prerequisites: Communication Science and Disorders students only

C_S_D 8250: Clinical Methods in Speech-Language Pathology  
An introduction to clinical procedures and evidence-based intervention methods relating to speech and language disorders. Topics include session design, data collection, measurement of progress, reporting of clinical results, and various treatment options. Graded on A-F basis only.  
Credit Hours: 3  
Prerequisites: Communication Science and Disorders students only

C_S_D 8260: Diagnosis in Speech-Language Pathology  
General principles of diagnosis; specific diagnostic tools and procedures for various speech and language disorders.  
Credit Hours: 3  
Prerequisites: Communication Science and Disorders students only

C_S_D 8320: Speech Sound Disorders  
Principles of clinical assessment and treatment for speech sound disorders in children. Includes foundations in research on early speech sound acquisition, organic and developmental disorders, and treatment efficacy. Graded on A-F basis only.  
Credit Hours: 2  
Prerequisites: Communication Science and Disorders students only

C_S_D 8420: Reading and Language Disabilities in School-Age Children  
Theories, research, and practice in reading development and disorders. Assessment and remediation of reading disabilities related to language disorders of various etiologies including developmental language disorders and head injury.  
Credit Hours: 2  
Prerequisites: C_S_D 4020 or C_S_D 8020

C_S_D 8430: Augmentative and Alternative Communication  
Students will learn the principles of AAC assessment, methods of intervention, and types of technology available for individuals unable to communicate fully through speech. Graded on A-F basis only.  
Credit Hours: 2  
Prerequisites: Communication Science and Disorders students only

C_S_D 8500: Issues in Professional Practice  
Organizational, inter-professional, economic, legal, and ethical aspects of delivering speech, language, and hearing services. Graded on A/F basis only.  
Credit Hours: 2  
Prerequisites: Communication Science and Disorders students only
C_S_D 8600: Clinical Language Analysis
This course provides a theoretical framework for understanding the
morphology, semantics, syntax, and pragmatics of English as well as
practice in the analysis of typical and atypical language samples. Graded
on A-F basis only.

**Credit Hours:** 3
**Prerequisites:** Communication Science and Disorders students only

C_S_D 8935: Clinical Practice in Audiology
Supervised practice in hearing screening, hearing conservation, and
aural re/habilitation. May be repeated for credit. Graded on S/U basis
only.

**Credit Hour:** 1

C_S_D 8945: Clinical Practice in Speech-Language Pathology
Supervised clinical practice in speech pathology for graduate students.
May be repeated for credit.

**Credit Hour:** 1-10
**Prerequisites:** Communication Science and Disorders students only

C_S_D 8960: Directed Reading in Communication Science and
Disorders
Independent reading; reports.

**Credit Hour:** 1-3
**Prerequisites:** instructor's consent

C_S_D 9050: Research in Communication Science and Disorders
Independent research leading to a report but not to a thesis or
dissertation.

**Credit Hour:** 1-99
**Prerequisites:** instructor's consent

C_S_D 9090: Research in Communication Science and Disorders
Research leading to thesis or dissertation. Graded on a S/U basis only.

**Credit Hour:** 1-99
**Prerequisites:** instructor's consent