5402. Advanced Topics in Biology. 4(3-4)
Lectures, literature, investigation and research at the graduate level in selected advanced topics. May be repeated for credit under different topics.

COMMUNICATION SCIENCES AND DISORDERS (CSDO)
Students who wish to enroll in the Graduate Program in Communication Sciences and Disorders (CSDO) must present evidence of completion of an undergraduate major in Speech-Language Pathology or completion of all undergraduate courses required of an undergraduate major in Speech-Language Pathology. Also, a basic course in statistics is required. Three letters of recommendation from professionals in Speech-Language Pathology who are familiar with the student's academic and/or clinical skills are also required. Grade point average and GRE scores are part of the evaluation for admission to the graduate program. The deadline for receipt of all application materials for consideration for fall admission is February 1st. The deadline for receipt of all application materials for consideration for spring admission is October 1st.

The M.S. in Communication Sciences and Disorders is offered as a thesis (Plan II) or nonthesis (Plan III) option. A minimum of 400 clock hours of clinical practice, 325 of which must be on the graduate level, is required. This graduate program will prepare students to function in a variety of clinical settings. The program is accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association (ASHA).

Students may be required to obtain a Criminal Background Check (CBC) either as part of the admissions process or prior to placement in certain externship sites. Students should also be advised that the Texas State Board of Examiners for Speech-Language Pathology and Audiology may deny a license to an applicant because of conviction for a felony or misdemeanor if the crime directly relates to the professional duties of a speech-language pathologist or audiologist.

5301. Research in Communication Sciences and Disorders. 3(3-0)
Major methods of research used in the various areas of communication sciences and disorders. Each student is responsible for the successful completion of a research project. Prerequisite: PSYC 3381; permission of instructor/graduate standing.

5303. Motor Speech Disorders. 3(3-0)
Disorders of speech with a neuromuscular basis found in children and adults, including motor-based articulation disorders, stuttering, voice disorders, the dysarthria and cerebral palsy. Prerequisite: permission of instructor/graduate standing.

5305. Graduate Research Project. 3
This course is specifically designed for Plan II and Plan III students. A graduate research project must be completed and submitted to the Department Office for a grade to be assigned, otherwise an S or U notation is recorded. Prerequisite: departmental approval. May be repeated for a maximum of 6 semester hours.
5306. Thesis Research. 3
This course is specifically designed for Plan I students. The course requires completion of thesis research. Prerequisite: departmental approval. May be repeated for a maximum of 6 semester hours.

5307. Diagnostics. 3(3-0)
Advanced study of diagnostic techniques and specific testing instruments utilized in the evaluation of communication disorders. Prerequisite: permission of instructor and completion of a minimum of 25 observation hours.

5308. Aphasia. 3(3-0)
Etiology, symptomatology, assessment and therapeutic techniques for effective treatment of neurologically based disorders including aphasia, closed head injury and dysphagia. Prerequisite: permission of instructor/graduate standing.

5309. Fluency Disorders. 3(3-0)
The study of various theories, research findings, rationales and methodologies for evaluation and treatment of dysfluency in children and adults. Prerequisite: permission of instructor/graduate standing.

5311. Graduate Clinical Practicum. 3(3-0)
Supervised clinical experience with communicatively handicapped individuals. Involves application of diagnostic, prescriptive and therapeutic techniques. Enrollment required for on-campus practicum. Prerequisites: permission of instructor/graduate standing and completion of a minimum of 25 observation hours. Credit/Noncredit.

5312. Contemporary Issues. 3(3-0)
Examination of current issues and trends. Topics to be announced on a semester basis. May be repeated for credit once if topic changes. Prerequisite: permission of instructor.

5314. Aural Rehabilitation/Habilitation. 3(3-0)
Effects of hearing impairment. Hearing aids and assistive devices as integrated into a treatment program including speech reading and auditory training. Prerequisite: CSDO 3313; permission of instructor.

5315. Advanced Audiology. 3(3-0)
Advanced audiological concepts and their applicability to instrumentation and educational procedures utilized in the habilitation and/or rehabilitation of the hearing impaired. Includes discussions of Central Auditory Processing Disorders, testing special populations, use and selection of assistive listening devices and advanced practicum techniques. Prerequisite: CSDO 5314; permission of instructor.
5316. Dysphagia. 3(3-0)
The study of oral-pharyngeal swallowing disorders, including anatomical and physiological basis for swallowing disorders, assessment and treatment. Prerequisite: permission of instructor.

5318. Articulation and Phonological Disorders. 3(3-0)
An advanced course in the study of phonology: the sound system of language, including pauses and stress. Prerequisite: permission of instructor.

5320. Child Language Disorders. 3(3-0)
Advanced study in the assessment of, and intervention for, childhood language disorders. Prerequisite: permission of instructor.

5322. Neuroscience in Communication Disorders. 3(3-0)
The study of neuroanatomy and neurophysiology and its relation to speech, language, hearing and their disorders. Prerequisite: permission of instructor.

5324. Independent Study in Communication Sciences and Disorders. V:1-3
Individual study of specific problems in speech-language pathology. Attention to individual needs of the student. This course is repeatable for credit and can be taught by different faculty covering different topics. Prerequisite: permission of instructor. Credit/Noncredit.

5326. Advanced Clinical Methods. 3(3-0)
Clinical techniques and strategies for teaching appropriate communicative behaviors. Specific therapy techniques for a wide range of communication disorders.

5328. Practicum Externship. V:1-3
Field placement. Assessment and management of clients with speech, language and hearing disorders in an externship site under supervision of ASHA certified supervisors. Prerequisites: 3.0 graduate GPA, completion of 50 on-campus clinical contact hours and permission of instructor. Credit/Noncredit.

5330. Bilingual/Bicultural Issues in Communication Sciences and Disorders. 3(3-0)
Study of current theories of bilingual/bicultural speech-language acquisition, differences and disorders/deficits. Assessment techniques and intervention strategies for detection of disorders/deficits in bilingual/bicultural individuals. Prerequisites: permission of instructor/graduate standing.

5410. Voice and Resonance Disorders. 4(4-0)
The study of the etiology, diagnosis and treatment of disorders of voice and resonance. Prerequisite: permission of instructor/graduate standing.
These three courses may be repeated; any two or all three can be taken simultaneously so that from 1 to 6 semester hours total credit can be carried per semester in Research Problems. A maximum of 3 semester hours may be accumulated toward the minimum hours for graduation. See Plan I for limitations.

CHEMISTRY (CHEM)
Nicholas R. Beller, Graduate Coordinator

Graduate Faculty: Nicholas R. Beller, Sajid Bashir, Apurba Bhattacharya, Mauro Castro, Maribel Gonzalez-Garcia

Associate Members: Xiaoliu Chi, Jingbo L. Lin, Greg Moehring

The Department of Chemistry offers a Master of Science degree. Requirements for admission are (a) a grade point average of 3.0 on a 4.0 scale and a satisfactory score on the GRE Aptitude Test (a TOEFL score of 525 when applicable); (b) 20 hours of approved undergraduate chemistry, including 12 advanced; (c) 8 hours of approved physics and 6 hours of calculus. Students not satisfying these requirements may be admitted conditionally. The department, in examining the applicant's prerequisites, may accept equivalent hours or require additional work. An entering graduate student is normally subjected to four placement examinations in organic, inorganic, analytical and physical chemistry that are used for advising the student's beginning course work.

5130. Graduate Chemistry Seminar. 1(1-0)
Provides an understanding of the experimental procedures used by authors, helps students develop a critical mind when reading scientific papers and provides them with practice in presenting research work in front of an audience. This training is essential for the education of master's and doctoral students. May be repeated for a total of 3 SCHs. Prerequisites: CHEM 3125, CHEM 3325.

5301. Chemical Instruments, Advanced. 3(2-4)
Principles and practices in design of instruments for research, analysis and process control. Prerequisite: CHEM 4401.

5303. Advanced Analytical Chemistry. 3(3-0)
An advanced survey of principles of chemical analysis with emphasis on newer developments in the field of analytical chemistry. Prerequisite: CHEM 4401.

5305. Graduate Research Project. 3
This course is specifically designed for Plan II and Plan III students. A graduate research project must be completed and submitted to the Department Office for a grade to be assigned, otherwise an S or U notation is recorded. Prerequisite: departmental approval. May be repeated for a maximum of 6 semester hours.