transmission, and perception of speech acoustics in communication; acoustic phonetics and psycho-acoustics. 4190 Introduction to Communication Disorders (Prereq.: COMD 2050, 4155). Interaction of hearing and speech, effects of hearing loss on speech and language development, types of hearing loss and evaluation and diagnostic procedures. 4250 Anatomy and Physiology of Speech and Hearing (Prereq.: COMD 2050). Functional anatomy of structures and functions related to speech and hearing. 4380 Speech and Language Development (4) (Also offered as LING 4380. 3 hrs. lecture; 1 hr. lab) Language acquisition and behavior, language development, verbal learning, and structural properties of speech; theories of language development in the normal child. 4381 Basic Articulation and Phonetics (Prereq.: COMD 2051, 4150). Introduction to articulatory physiology, development, etiology, evaluation and treatment of disorders. 4382 Basic Language Disorders of Children (Prereq.: COMD 4380 or equivalent and consent of instructor). Differential diagnosis and remediation of major language disorders of children. 4383 Basic Fluency Disorders (Prereq.: COMD 4381 or equivalent. For clinical practicum take COMD 4683, 4684, or 4685). Stuttering and allied disorders; emphasis on symptomatology, testing, rehabilitation and prevention. 4384 Basic Voice Disorders (3) Introduction to vocal physiology, dynamic characteristics and measurement of fundamental detection and perception. Motor and articulatory phonetics, phylogenesis of human speech sounds. Auditory; middle-ear measurements, differential diagnosis; physiological tests including audiological evoked potentials. 4390 Audiology Assessment (3) (Prereq.: COMD 4250, 4190) Speech, hearing and interpersonal communication; assessment of children. 4395 Communication Disorders I (Prereq.: COMD 4155, 4190). Methods of management including modes of communication, auditory and speech reading training, attitude and its measurement, identification and intervention, and educational placement. 4681 Clinical Preparation and Observation Laboratory (1 & 2 hrs. lab.) For majors in communication science and disorders. Study of clinic rules and procedures, codes of ethics; observation of various types of therapy and evaluation. 4682 Introduction to Clinical Practice (2) F.S. For majors in communication sciences and disorders. Techniques for test administration, therapeutic methods, report writing, counseling/consultation. 4683, 4684, 4685 Clinical Practice: Therapeutic Techniques (1-6 each) (Prereq.: COMD 4682 and credit in course work related to practice-specific speech, language, or hearing disorder. May be taken for a max. of 5 sem. hrs. of credit each. On- and off-campus practica in speech, language, and hearing disorders. 4694 Clinical Practicum in a Medical Environment (1-4) Prereq.: consent of instructor. Speech and/or audiology practicum in a hospital or a medical practitioner’s office. 4750 Independent Research in Speech Science or Linguistics (1-3) May be taken for a max. of 3 hrs. of credit. Also offered as LING 4750. 4751 Special Topics in Communication Disorders (3) May be taken for a max. of 3 hrs. undergraduate or graduate credit when topics vary. 4752 Survey of Adult Neurogenic Communication Disorders (3) A clinical and physiological model of health provides structure for study of basic neuroanatomy, assessment, treatment, and social consequences of adult neurogenic communication disorders. 4753 Undergraduate Seminar in Speech Perception (Prereq.: COMD 4150. Not for graduate credit. Introduction to problems in speech perception across the human lifespan, in both typical and atypical listeners. 7151 Speech Science (3) Motor and articulatory phonetics, including palatographic, acoustic-phonetic, and aspects of signal detection. 7152 Instrumentation and Methods for Speech and Hearing (4) (Prereq.: COMD 4153 or equivalent. 3 hrs. lecture; 2 hrs. lab) Introduction to research and assessment in speech and hearing; both theory and application emphasized. 7153 Research Design in Communication Science and Disorders (Prereq.: Prereq.: EXST 4001, 4006 or equivalent. Empirical research design in problems in speech and hearing. Emphasis on statistical techniques. 7191 Hearing Science (3) (Prereq.: COMD 4250. Auditory transmission and processing from the outer ear to the cortical areas; auditory thresholds; psychoacoustics; psychoacoustic adaptation. 7192 Hearing Aids: Electroacoustics and Fitting (3) (Prereq.: COMD 7191. 7490). Electroacoustic analysis of hearing aids, earmoulds; selection and evaluation procedures, special devices, and problems in communication and speech processing. 7280 Neuroanatomical Bases of Speech and Hearing (3) (Prereq.: BIOL 2100 and COMD 4250 or equivalent. Study of neuroanatomy and physiology of the central nervous system as it relates to sensory/motor and cognitive processes underlying speech disorders. 7381 Language and Learning Disorders (3) Prereq.: COMD 4382. Language disorders and the communicative and cognitive abilities of children. Preparatory models for language intervention; relationship between language and learning; emphasis on school-aged child. 7382 Voice Disorders I (Prereq.: COMD 4382). Incidence, etiology, concomitant problems; assessment and management of vocal dysphonias, aphonia, and laryngeal disorders. 7383 Cleft Palate/Orofacial Disorders (3) Prereq.: COMD 4380, 4384. Orofacial anatomy, physiology, and etiology; etiology, assessment and management of orofacial cleft; surgical, dental, speech, hearing, and psychosocial concomitants and their management. 7384 Early Communicative Intervention (3) Prereq.: COMD 4382 or equivalent. For clinical practice, take COMD 7684 or 7685. Cognitive, social, and environmental conditions associated with “high risk” for communicative disorders; intervention approaches (prevention, evaluation, direct stimulation of child-caregiver interactions) and service delivery models (home-based, center-based). 7385 Neuropsychopathologies of Speech (3) Prereq.: COMD 4250, 4381, and 7280; or equivalent. Physiological and anatomical bases of dysarthria, apraxia, and related speech disorders due to neurogenic conditions. Neuroanatomy; emphasis on diagnosis, description, and clinical management. 7386 Introduction to Augmentative/Alternative Communication (Current issues, terminology, and technological developments; augmentative systems and related components, including symbol systems; augmentative communication assessment; intervention guidelines and procedures. 7387 Aphasia in Adults (3) (Prereq.: COMD 7280 or equivalent and consent of instructor). Neurological bases of aphasia and related disorders; appropriate therapeutic methodologies. 7388 Fluency Disorders II (3) (Prereq.: COMD 4383 or equivalent. Etiology and nature of speech fluency disorders. 7389 Communicative Rehabilitation of Severely/Multiply Handicapped Individuals (3) Medical bases of severe and profound hearing impairment, communication system; assessment and intervention processes; pragmatics of interpersonal communication involving individuals who use non-speech modalities. 7390 Industrial Audiology and Hearing Conservation (3) (Prereq.: COMD 7490). Audiological practices in industry and hearing conservation programs; professional, technical, business, and legal issues. 7391 Educational and Pediatric Audiology (3) (Prereq.: COMD 7490). Audiology in educational settings and special populations. 7392 Speech, Language, and Diagnosis of Communication Disorders (3) Psychological and behavioral measurement of communicative functioning and treatment planning for common speech/language disorders. 7393 Psychological Assessment of the Adult (3) (Prereq.: COMD 7490). Psychological and neuropsychological models for adult communication disorders. 7394 Clinical Management of Communication Disorders (3) Clinical management of communication disorders. 7395 Integration of Knowledge: Clinical and Communicative (3) Integration of knowledge of normal and pathological speech and language development across the lifespan.