
Communication Sciences and Disorders

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Adjunct Faculty

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Emeritus Faculty

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Clinical Instructors

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Admission

To be considered for unconditional admission into any of the graduate programs, a prospective student must have a 3.25 grade point average in the undergraduate major, successfully completed the undergraduate prerequisite courses, and completed the Graduate Record Examination. Applicants to the Master of Science in Speech-Language Pathology must submit two letters of recommendation and those applying to the Master of Science in Communication Sciences and Disorders or the doctoral programs must submit three letters of recommendation and a letter of intent and, if invited, schedule a personal interview.

Applications may be submitted at any time. However, for full consideration, it is recommended that all materials be received by February 1 for fall semester admission. After that time, applications will be reviewed in accordance with slots that may be available. Using the submitted material, the department admissions committee will rank eligible candidates for a limited number of admissions. Students who have not met the undergraduate prerequisite course work for the clinical preparation programs in audiology and speech-language pathology may apply to the clinical graduate programs (Master of Sciences in Speech-Language Pathology or Doctor of Audiology) as a provisional student. Once the prerequisite course work has been completed at a satisfactory level, the student is shifted from provisional to either conditional or unconditional status.

Students applying for admission to either the M.S. program in Speech-Language Pathology or the Au.D. program should be aware that some of the clinical placement sites in which students are required to complete clinical practica in order to graduate will require the student to produce a current criminal records check. It is the student's responsibility to arrange for the check, to keep

it current in order to comply with the requirements of the various clinical sites, and to advise the university and department if the status of the student's criminal record changes at any time during the student's program

Mission

The Department of Communication Sciences and Disorders is committed to providing comprehensive, state-of-the-art undergraduate pre-professional education that includes discipline-specific course work and observation. In keeping with university requirements, this includes a broad-based General Education component. The department also provides graduate-level course work and practicum experiences for those interested in entering professional practice in either speech-language pathology or audiology, university teaching and research positions, or management/administrative positions in service delivery settings. The department is committed to advancing the state of knowledge in both basic and applied aspects of communication sciences and disorders through its master's and doctoral research degrees and the research activities of its faculty and students, and to providing service to the profession, university, and client communities at local, state, national, and international levels. Through its applied laboratory the department seeks to provide outreach services to the region as part of the clinical teaching component of its mission and to provide a clinical research resource for students and faculty.

The audiology and speech-language pathology clinical training graduate programs in the Department of Communication Sciences and Disorders are accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language-Hearing Association.

Speech-Language-Hearing Applied Laboratory

The JMU Applied Laboratory, operated by the Department of Communication Sciences and Disorders, provides evaluation and clinical intervention services for individuals with speech, language and hearing problems. The priority for services offered through this clinical teaching laboratory is determined by the needs of practicum students. Appointments for a consultation or evaluation may be made by any member of the general public or university community. Professional services are provided by expert certified speech-language pathologists and audiologists who supervise the practicum of students.

Doctor of Philosophy (Ph.D.) in Communication Sciences and Disorders

A nationwide shortage of individuals with Ph.D.s in the communication sciences and disorders means that graduates are in high demand for employment in leadership positions in health facilities, universities and research centers. In addition to advanced course work related to communication disorders, students complete requirements in statistics, research design, hearing or speech sciences, a teaching/supervising internship, and dissertation.

The Ph.D. program is individualized to the specific interests of the student while assuring a rigorous educational experience appropriate to the research-training and advanced knowledge characteristics of the degree. Students may be admitted to the Ph.D. program at various stages, including 1) post-masters, 2) post-baccalaureate, and 3) post-Au.D., depending upon the individual's career goals. Some students may wish to pursue clinical qualifications in either audiology or speech-language pathology while concurrently undertaking their Ph.D. studies. All admitted students will undertake an individually-designed program emphasizing research tools, research activities and in-depth exposure to a major area of interest supported by study in a minor area.

Requirements

The Ph.D. program affords a time for students to acquire the depth of knowledge, skills and experiences to empower them to create new knowledge in the field and to become expert researchers, leaders, teachers and/or supervisors. Each student's course of study is individually tailored to meet the student's interests and represents an agreement between the student and the student's advising committee. All students must pursue an advanced course of study that will include the following components:

- Core course work (8 credits)
 - speech and hearing science (CSD 867, Experimental Phonetics, 3 credits)
 - methods of measurement in CSD (CSD 805, Methods of Measurement in CSD, 3 credits)
 - professional issues and development (CSD 806, 807, Ph.D. Professional Development Seminar I; Ph.D. Professional Development Seminar II, 1 credit each)
- Course work within the student's major area of emphasis (minimum: 14 credit hours¹)

- Course work outside, but related to, the student's major area of emphasis (minimum: 6 credit hours¹)
- Course work in statistical methods and research design (minimum: 12 credit hours¹)
- Directed research experience (minimum: 6 credit hours¹)
- Teaching and/or supervision experience (minimum: 2 credit hours¹)
- Dissertation credit (minimum: 9 credit hours¹)

¹ These requirements may be partially met for students holding a doctoral degree or concurrently completing another JMU doctoral program.

Sample Curriculum for post-Masters

Credit Hours	
Core course work	8
Major concentration course work	14
Outside, related course work	6
Research tools	12
Directed research	6
Teaching/Supervision	2
Dissertation - minimum of	9
Total Hours	57

Sample Curriculum for post-Bachelors

Credit Hours	
Post-Bachelors course work (individually determined)	36-44
Core course work	8
Major concentration course work	14
Outside, related course work	6
Research tools	12
Directed research	6
Teaching/Supervision	2
Dissertation - minimum of	9
Total Hours	93-101

Sample Curriculum for Dual Au.D./Ph.D.

Credit Hours	
Doctor of Audiology requirements (includes 6 credits of dissertation)	100
Core course work	8
Major concentration course work	3
Outside, related course work	6
Research tools	3
Directed research	3
Teaching/Supervision	2
Dissertation - minimum of	5
Total Hours	130

Sample Curriculum for post Au.D

Credit Hours	
Core course work	8
Major concentration course work	3
Outside, related course work	6
Research tools	3
Directed research	3
Teaching/Supervision	2
Dissertation - minimum of (assumes 6 dissertation credits in Au.D.)	5
Total Hours	30

Doctor of Audiology (Au.D.)

This graduate clinical audiology program is a four-year post-baccalaureate program of study that culminates in eligibility for certification in audiology granted by the American-Speech-Language-Hearing Association and for licensure in audiology as awarded by the Virginia Board of Audiology and Speech Pathology. Students admitted to this program are matriculated into a focused curriculum developed to prepare doctoral-level practitioners. Students admitted to the Doctor of Audiology program who already hold a master's degree in audiology will complete an individualized program of study composed of a minimum of 57 semester credit hours. No students will be allowed to matriculate with the intention of earning a master's degree as the terminal degree.

Au.D. Requirements

Required Courses

Credit Hours

CSD 511. Instrumentation in Audiology	3
CSD 512. Anatomy and Physiology of the Auditory and Vestibular Systems	3
CSD 513. Anatomy and Physiology of the Central Auditory Pathway	2
CSD 514. Audiologic Assessment	3
CSD 515. Human Communication and Aural Rehabilitation	3
CSD 516. Vestibular Physiology and Testing	3
CSD 523. Psychoacoustics	3
CSD 531. Industrial Audiology	2
CSD 533. Business Applications	3
CSD 551. Introduction to Hearing Aids	3
CSD 600. Research in Audiology	3
CSD 611. Neurophysiologic Measures I	5
CSD 621. Neurophysiologic Measures II	5
CSD 622. Advanced Hearing Aids	4
CSD 633. Auditory Pathophysiology	3
CSD 711. Pediatric Audiology	3
CSD 731. Medical Audiology	2
CSD 920. Dissertation	9-12
Seminars	
CSD 510. Seminar in Audiology (Clinical Methods I)	1
CSD 525. Seminar in Audiology (Clinical Methods II)	1
CSD 550. Seminar in Audiology (Tinnitus)	2
CSD 620. Seminar in Audiology (Research Proposal)	3
CSD 710. Seminar in Audiology (Geriatric Audiology)	1
CSD 720. Seminar in Audiology (Cochlear Implants)	2
CSD 810. Professional Seminar in Audiology	1
CSD 820. Professional Seminar in Audiology	1
Clinical Practicum	
CSD 519. Audiology Clinical Practicum A	3
CSD 539. Audiology Clinical Practicum B	2
CSD 619. Audiology Clinical Practicum C	3
CSD 629. Audiology Clinical Practicum D	3
CSD 639. Audiology Clinical Rotation A	3
CSD 719. Audiology Clinical Rotation B	3
CSD 729. Audiology Clinical Rotation C	3
CSD 819. Audiology Externship A or CE 850.	1-6

CSD 829. Audiology Externship B or CE 850.	1-6
CSD 839. Audiology Externship C or CE 850.	1-6
PSYC 605. Research and Inferential Statistics	3
Total Hours	(minimum) 100

Master of Science (M.S.)

The Department of Communication Sciences and Disorders offers two concentrations in the Master of Science program. One is the Master of Science in Speech-Language Pathology. This is a clinical concentration designed to prepare individuals to practice as speech-language pathologists. The second is the Master of Science in Communication Sciences and Disorders. It is a non-clinical concentration designed for individuals who seek concentrated study in one or more areas of human communication sciences and/or communication disorders without clinical preparation as audiologists or speech-language pathologists. Because this concentration provides the opportunity for more in-depth study in selected concentrations and involves students in active participation in research, it is designed to lay a solid foundation in communication sciences and disorders research, particularly for those individuals wanting to pursue further study at the Ph.D. level.

M.S. in Speech-Language Pathology (clinical)

The master's degree program in speech-language pathology is designed to provide a broad spectrum of academic and practicum experiences necessary for the education of specialists who deal with disorders of human communication and swallowing.

Clinical practical experiences are available in a wide range of professional settings including the JMU Applied Laboratory, various hospital and rehabilitation programs, and the public schools. The academic and clinical components of the program are consistent with the requirements for certification in speech-language pathology of the American Speech-Language-Hearing Association and for health and education licensures in speech-language pathology by the state of Virginia. Applicants should have completed prerequisite undergraduate course work in communication sciences and disorders and/or related areas of study. Students may be admitted to the on-campus program with deficiencies but should be aware that appropriate undergraduate prerequisites must be completed.

Most students will be admitted as traditional on-campus students. However, the department also participates in a statewide collaborative online masters program, Distance Learning in Virginia – Educating Speech-Language Pathologists (DLVE-SLP), funded by a grant from the Virginia Department of Education. A few students who meet DLVE-SLP candidacy, including all prerequisite course work, may be admitted to the JMU master's program to undertake their master's degree in the primarily online program. These students will complete the program listed below for DLVE-SLP students. Although many of the requirements are completed in an online mode, interested individuals should be aware that there will be some on-campus requirements. These are typically scheduled for the summer period. Students interested in the DLVE-SLP program should consult www.DLVE-SLP.org for more detailed information and the name of a contact person.

M.S. in Speech-Language Pathology Requirements (on-campus)

Required Courses

Credit Hours

CSD 500. Introduction to Research in Communication Sciences and Disorders	2
CSD 522. Communication Disorders of the Traumatically Brain Injured	2
CSD 527. Ageing and Communication	1
CSD 528. Autism	1
CSD 529. Augmentative Communication	1
CSD 530. Early Intervention	1
CSD 544. Evaluation and Treatment of Swallowing Disorders	2
CSD 560. Neuromotor Speech Disorders	2
CSD 604. Neuroanatomy and Neurophysiology of Speech and Language	3
CSD 605. Physiological and Acoustical Phonetics	3
CSD 623. Advanced Study of Phonological Disorders	3
CSD 625. Pediatric Dysphagia	1
CSD 632. Processes and Disorders of Speech Fluency	2
CSD 640. Advanced Children's Language Disorders	3
CSD 641. Language Disorders in Adults	2
CSD 651. Disorders of Speech Resonance	2
CSD 656. Voice Disorders	3
Clinical Practicum	10
CSD 581. Intern Speech Practicum - required	2
CSD 582. Intern Speech Practicum - required	2
CSD 583. Summer Intern Speech Practicum - required	2
CSD 584. Intern Speech Practicum	2
CSD 585. Intern Speech Practicum	2
CSD 586. Intern Speech Practicum	2
CSD 682. Extern Speech Practicum - required	2
CSD 683. Extern Speech Practicum or CE 650 - required	2-7
Electives	
CSD 515. Human Communication and Aural Rehabilitation	3
CSD 520. Advanced Sign Language	3
CSD 680. Reading and Research	1 - 3
CSD 700. Thesis	6
	6
	(minimum) 44

M.S. in Speech-Language Pathology Requirements (DLVE-SLP)

Students interested in the DLVE-SLP program should consult www.DLVE-SLP.org for more detailed information and the name of a contact person.

Required Courses

Credit Hours

CSD 500. Introduction to Research in Communication Sciences and Disorders	2
CSD 522. Communication Disorders of the Traumatically Brain Injured	2
CSD 527. Aging and Communication	1
CSD 528. Autism	1
CSD 529. Augmentative Communication	1
CSD 530. Early Intervention	1
CSD 544. Evaluation and Treatment of Swallowing Disorders	2
CSD 560. Neuromotor Speech Disorders	2
CSD 604. Neuroanatomy and Neurophysiology of Speech and Language	3
CSD 605. Physiological and Acoustical Phonetics	3
CSD 623. Advanced Study of Phonological Disorders	3
CSD 625. Pediatric Dysphagia	1
CSD 632. Processes and Disorders of Speech Fluency	2
CSD 640. Advanced Children's Language Disorders	3
CSD 641. Language Disorders in Adults	2
CSD 651. Disorders of Speech Resonance	2
CSD 656. Voice Disorders	3
Clinical Practicum	10
CSD 581. Intern Speech Practicum- required	2
CSD 582. Intern Speech Practicum - required	2
CSD 583. Summer Intern Speech Practicum - required	2
CSD 584. Intern Speech Practicum	2
CSD 585. Intern Speech Practicum	2
CSD 586. Intern Speech Practicum	2
CSD 682. Extern Speech Practicum - required	2
CSD 683. Extern Speech Practicum or CE 650 - required	2-7
Electives	
CSD 515. Human Communication and Aural Rehabilitation	3
CSD 520. Advanced Sign Language	3
CSD 680. Reading and Research	1 - 3
CSD 700. Thesis	6
	6
	(minimum) 44

M.S. in Communication Sciences and Disorders (research)

The master's degree program in communication sciences and disorders is a non-clinical program that combines concentrated study in selected areas of human communication sciences and/or communication disorders and active research participation and research training. For individuals who wish to pursue further study at the Ph.D. level, the program offers a solid foundation in communication sciences and disorders research. Students select one area (Category C course work) from among four possible areas and complete the course work in that area in addition to the course work in the three other categories (A, B and D), as indicated below, for a total of a minimum of 36 credit hours. Completion of a thesis and participation in directed research experiences are essential parts of the program.

M.S. in Communication Sciences and Disorders Requirements

Required Courses

Credit Hours

Category A: Research Design and Statistics *Min. 9*

CSD 500. Introduction to Research in Communication Sciences and Disorders, or

CSD 600. Research in Audiology

Choose, in conjunction with major adviser, 6

at least 6 credits from the following:

PSYC 600. Introduction to Measurement and Statistics

PSYC 604. Computer Assisted Data Management

PSYC 605. Research and Inferential Statistics

PSYC 608. Multivariate Statistical Methods

PSYC 609. Applied Research Methods

PSYC 840. Qualitative Research Design and Analysis

HTH 655. Research Techniques

Or other courses as approved

Category B: Speech/Hearing Sciences and Instrumentation *Min. 6*

Choose, in conjunction with major adviser, 6

at least 6 credits from the following:

CSD 511. Instrumentation in Audiology

CSD 512. Anatomy and Physiology of the Auditory and Vestibular Systems

CSD 513. Anatomy and Physiology of the Central Auditory Pathway

CSD 523. Psychoacoustics

CSD 604. Neuroanatomy and Neurophysiology of Speech and Language²

CSD 605. Physiological and Acoustical Phonetics²

Areas of Concentration:

Complete one area Min. 9

Area 1. Adult Neurogenic Communication Impairment

CSD 718. Independent Study 3

Choose at least 6 credits, as approved by major adviser, 6

from the following:

CSD 515. Human Communication and Aural Rehabilitation

CSD 522. Communication Disorders of the Traumatically Brain Injured

CSD 527. Aging and Communication

CSD 532. Counseling in Audiology

CSD 544. Evaluation and Treatment of Swallowing Disorders

CSD 560. Neuromotor Speech Disorders

CSD 641. Language Disorders in Adults

CSD 710. Geriatric Audiology

Area 2. Pediatric Communication Impairment

CSD 718. Independent Study 3

Choose at least 6 credits, as approved by major adviser, 6

from the following:

CSD 515. Human Communication and Aural Rehabilitation

CSD 528. Autism

CSD 529. Augmentative Communication

CSD 530. Early Intervention

CSD 623. Advanced Study of Phonological Disorders

CSD 625. Pediatric Dysphagia

CSD 640. Advanced Children's Language Disorders

Area 3. Speech Production Disorders

CSD 718. Independent Study 3

Complete at least 6 credits, as approved by major adviser, 6

from the following:

CSD 560. Neuromotor Speech Disorders

CSD 604. Neuroanatomy and Neurophysiology of Speech and Language²

CSD 605. Physiological and Acoustical Phonetics²

CSD 651. Disorders of Speech Resonance

CSD 656. Voice Disorders

Area 4. Hearing and Hearing Disorders

CSD 718. Independent Study 3

Complete at least 6 credits, as approved by major adviser, 6

from the following:

CSD 512. Anatomy and Physiology of the Auditory and Vestibular Systems

CSD 513. Anatomy and Physiology of the Central Auditory Pathway

CSD 516. Vestibular Physiology and Testing

CSD 523. Psychoacoustics

CSD 611. Neurophysiologic Measures I

CSD 621. Neurophysiologic Measures II

CSD 633. Auditory Pathophysiology

Category D: Research and Thesis *Min. 12*

CSD 717, 791, 792, 793, or 817, 917. Directed Research 6

CSD 700. Thesis 6

(minimum) 36

² These courses cannot be used to complete requirements in more than one category of study.

Financial Aid

Graduate assistantships are available on a competitive basis to graduate students. In addition, fellowships funded by the Scottish Rite Foundation of Virginia are available to graduate students admitted to the graduate program with the concentration in speech-language pathology. Scottish Rite Fellowships are restricted to Virginia residents who intend to pursue positions with language-impaired children in Virginia. Contact the graduate coordinator in the department for information.

Course Offerings

Communication Sciences and Disorders.

CSD 500. Research in Communication Sciences and Disorders. 2 credits.

Focuses on both basic and applied research interpretation.

CSD 501. Workshops in Speech-Language Pathology and Audiology. 3 credits.

Designed to provide a detailed study of a particular topic of interest in speech pathology and/or audiology. *Prerequisite: Permission of department head.*

CSD 510. Seminar in Audiology (Clinical Methods). 1 - 3 credits.

This course addresses selected topics, issues and other content designed to prepare students for clinical practice in audiology. Content is treated on an introductory level with emphasis upon problem solving and integration of information across didactic and practical knowledge toward clinical skill development.

CSD 511. Instrumentation in Audiology. 3 credits.

A study of topics and procedures of instrumentation fundamental to clinical practice including electricity and electronics, filters, calibration, acoustical impedance, analog and digital signals, and acoustics.

CSD 512. Anatomy and Physiology of the Auditory and Vestibular Systems. 3 credits.

Advanced study of the anatomy and physiology of the auditory and vestibular systems to include cochlear and neural mechanisms of sound coding.

CSD 513. Anatomy and Physiology of the Central Auditory Pathway. 2 credits.

Advanced study of the anatomy and physiology of the central auditory pathway from the cochlear nucleus to the auditory cortex. Neural bases for encoding cues for intensity, frequency and localization will be discussed. Normal mechanisms will be discussed in light of diagnosis and treatment of pathological processes.

CSD 514. Audiologic Assessment. 3 credits.

A study of auditory disorders and the measurement of hearing including an overview of behavioral and physiologic measures. Emphasis is placed on the behavioral evaluation of the peripheral system, tests of cochlear and retrocochlear differentiation, and immittance measures.

CSD 515. Human Communication and Aural Rehabilitation. 3 credits.

This course focuses on the impact of hearing loss on human communication across the lifespan. Aural habilitation and rehabilitation procedures common to the 20th century are compared with today's trends and with projected advances expected for the 21st century.

CSD 516. Vestibular Physiology and Testing. 3 credits.

Advanced study of the anatomy and physiology of the oculomotor and vestibular systems. Detailed study of basic and advanced concepts in clinical testing, treatment and mechanisms of rehabilitation of disorders of the vestibular and balance system.

CSD 519. Audiology Clinical Practicum A. 3 credits.

Supervised clinical practicum at the Communication Sciences and Disorders Applied Laboratory and a variety of other settings. Lab fee required. *Prerequisite: CSD 510.*

CSD 520. Advanced Sign Language. 3 credits.

Advanced sign language will enhance the communication skills of the student whose core vocabulary and knowledge of application of sign language are basic. The course arranges opportunities for building fluency and reception, as well as expanding knowledge of sign systems and the appropriateness in a given situation. *Prerequisite: CSD 420 or permission of instructor.*

CSD 522. Communication Disorders of the Traumatically Brain Injured. 2 credits.

An overview of the role of speech-language pathology in the interdisciplinary management of cognitive-communicative deficits associated with traumatic brain injury.

CSD 523. Psychoacoustics. 3 credits.

A study of the relationship between a sound stimulus and the behavioral response it produces in a listener.

CSD 524. Audiologic Assessment II. 3 credits.

A study of various measures of auditory function including an overview of common physiologic techniques of hearing and balance, tests of pseudohypacusis, and central auditory dysfunction. Consideration is provided to variation in technique for different age populations and the difficult-to-test.

CSD 525. Seminar in Audiology (Clinical Methods II). 1-3 credits.

This course addresses selected topics, issues and other content designed to prepare students for clinical practice in audiology. Content is treated on an introductory level with emphasis upon problem solving, integration of information across didactic and practical knowledge toward clinical skill development.

CSD 526. Supervision in Speech Language Pathology and Audiology. 1 credit.

The American Speech-Language-Hearing Association guidelines for clinical supervision form the basis for the study of the supervisory process. Problems in supervision and current research will offer students models and techniques to apply as a supervisee or supervisor.

CSD 527. Aging and Communication. 1 credit.

A study of the processes underlying normal aging and the potential effects of senescence on communication abilities. Emphasis is placed on the speech, language, and cognitive therapeutic interventions relative to geriatric care. *Prerequisite: CSD 641. Language Disorders in Adults (recommended).*

CSD 528. Autism. 1 credit.

Focus on demographics of autism spectrum disorders, historical and contemporary diagnostic and treatment procedures, and the role of the speech-language pathologist in interdisciplinary programs.

CSD 529. Augmentative Communication. 1 credit.

Assessment and intervention strategies for the speechless population will be presented. Students will participate in demonstrations of alternative communication systems. An interdisciplinary team approach to (re)habilitation will be studied.

CSD 530. Early Intervention. 1 credit.

Introduction to early intervention programs and approaches for infants and toddlers with emphasis on the role of the speech-language pathologist in team intervention.

CSD 531. Industrial Audiology. 2 credits.

A study of the effects of noise upon humans and topics relevant to hearing conservation, such as noise assessment and risk factors, hearing protectors, audiometric testing, employee training, and record keeping.

CSD 532. Counseling in Audiology. 2 credits.

This course introduces graduate students to counseling within the discipline of audiology, particularly treating special needs of individuals and the families/caregivers of individuals with hearing loss. Indicators that suggest counseling as an additional service are also covered.

CSD 533. Business Applications in Audiology. 3 credits.

This course focuses on the various professional and business practices and regulations that impact audiology. Topics include licensure, certification, ethical and professional standards of practice, as well as practice management and business methods common to the practice of audiology.

CSD 539. Audiology Clinical Practicum B. 2 credits.

Supervised clinical practicum at the Communication Sciences and Disorders Applied Laboratory and a variety of other settings. Lab fee required. *Prerequisites: CSD 519 and CSD 525.*

CSD 540. Language Development and Disorders in Children for School Personnel. 3 credits.

A comprehensive study of the language development of children, the various characterizations of language impairment in children and intervention issues and strategies with a particular focus on academic and educational implications and interdisciplinary management in daycare, preschool and school environments.

CSD 544. Evaluation and Treatment of Swallowing Disorders. 2 credits.

Current research and clinical management will be presented of individuals showing difficulties in feeding orally and aspirating. Normal physiology of deglutition and the multidisciplinary approach toward the management of dysphagia will be emphasized.

CSD 550. Seminar in Audiology (Tinnitus). 1-3 credits.

This course addresses selected topics, issues and other content designed to prepare students for clinical practice in audiology. Content is treated on an intermediate level with emphasis upon problem solving and integration of information across didactic and practical knowledge toward clinical skill development.

CSD 551. Introduction to Hearing Aids. 3 credits.

A study of hearing handicap and its management in adults, including amplification technologies, electroacoustic analyses, and prescription and verification procedures. Emphasis is on the foundations of clinical management.

CSD 560. Neuromotor Speech Disorders. 2 credits.

The objective of this course is to familiarize students with the theoretical and clinical aspects in the areas of dysarthria and apraxia. Similarities and differences of the speech impairments in these disorders will be demonstrated and applied to diagnosis and treatment.

CSD 561. AR for Audiology. 1 credit.

Clinical practicum in aural rehabilitation.

CSD 563. SLP for Audiology. 1 credit.

Speech-language pathology practicum for the audiology major.

CSD 581. Intern Speech Practicum. 2 credits.

Speech-language pathology practicum. This particular practicum course must be completed as part of the total 10 credits in practicum courses.

CSD 582. Intern Speech Practicum. 2 credits.

Speech-language pathology practicum. This practicum course must be completed as part of the total 10 credits in practicum courses. Satisfactory completion of the course requires participation in professional development activities as outlined in the course syllabus, in addition to clinical practicum. *Prerequisites: CSD 581, CSD 623 and CSD 640.*

CSD 583. Summer Intern Speech Practicum. 2 credits.

Speech-language pathology practicum. This particular practicum course must be completed as part of the total 10 credits in practicum courses. *Prerequisites: CSD 581, CSD 623 and CSD 640.*

CSD 584. Intern Speech Practicum. 2 credits.

Speech-language pathology practicum. *Prerequisites: CSD 581, CSD 623 and CSD 640.*

CSD 585. Intern Speech Practicum. 2 credits.

Speech-language pathology practicum. *Prerequisites: CSD 581, CSD 623 and CSD 640.*

CSD 586. Intern Speech Practicum. 2 credits.

Speech-language pathology practicum. *Prerequisites: CSD 581, CSD 623 and CSD 640.*

CSD 600. Research in Audiology. 3 credits.

Evaluations of research designs and methods in audiology, critique of published articles and student involvement in designing experiments on assigned topics.

CSD 604. Neuroanatomy and Neurophysiology of Speech and Language. 3 credits.

Neuroanatomy and neurophysiology with an emphasis on speech and language behavior. Comprehensive examination of the neuroanatomic and neurophysiologic substrate for cognition and communication.

CSD 605. Physiological and Acoustical Phonetics. 3 credits.

Respiratory, phonatory, resonatory and articulatory components of speech output are considered. Theoretical models of speech production and reception are discussed.

CSD 611. Neurophysiologic Measures I. 5 credits.

Study of the neurophysiological and electrophysiological properties of the human peripheral and central auditory pathways.

CSD 619. Audiology Clinical Practicum C. 3 credits.

Supervised clinical practicum at the Communication Sciences and Disorders Applied Laboratory and a variety of other settings. *Prerequisite: CSD 539 or permission of instructor.*

CSD 620. Seminar in Audiology (Research Proposal). 1-3 credits.

This course provides students the opportunity to explore research questions in various areas of audiology, to develop hypotheses and design appropriate research methodology. The expectation at the conclusion of the course is that students will have designed a research proposal that can provide a foundation for dissertation research.

CSD 621. Neurophysiologic Measures II. 5 credits.

Advanced study of the neurophysiological and electrophysiological properties of the human auditory and related sensory and motor systems.

CSD 622. Advanced Hearing Aids. 4 credits.

An advanced study of hearing handicap and its prosthetic management. Various technologies, prescription methods and verification procedures are critically reviewed.

CSD 623. Advanced Study of Phonological Disorders. 3 credits.

Articulatory phonetics, phonological processes and co-articulation are considered. Emphasis is given to analysis of phonological delays/disorders and specific procedures of remediation.

CSD 625. Pediatric Dysphagia. 1 credit.

The study of feeding and swallowing disorders in children. Instrumental and neuro developmental evaluation will be presented. Management techniques for feeding and swallowing difficulties will be advanced.

CSD 629. Audiology Clinical Practicum D. 3 credits.

Supervised clinical practicum at the Communication Sciences and Disorders Applied Laboratory and a variety of other settings. *Prerequisite: CSD 619 or permission of instructor.*

CSD 632. Processes and Disorders of Speech Fluency. 2 credits.

Advanced diagnostic and therapeutic aspects of stuttering for children and adults are studied. Particular emphasis is placed on differentiating incipient stuttering from normal disfluencies.

CSD 633. Auditory Pathophysiology. 3 credits.

A study of the various disorders of the external, middle and inner ears; the retrocochlear and central auditory systems; and the vestibular and balance system.

CSD 639. Audiology Clinical Rotation A. 3 credits.

Supervised clinical practicum at clinical settings external to the Communication Sciences and Disorders Applied Laboratory. *Prerequisites: CSD 629, permission of instructor and head of department.*

CSD 640. Advanced Children's Language Disorders. 3 credits.

Comprehensive study of children's pragmatic, semantic and syntactic impairments. Emphasis is placed upon etiologies, evaluation and habilitation procedures.

CSD 641. Language Disorders in Adults. 2 credits.

Theoretical comparative aspects and clinical management of aphasia in adults are emphasized. Communication disorders associated with right hemisphere brain damage are also considered.

CSD 649. Selected Clinical Topics in Audiology. 4 credits.

Discussion of advanced topics relevant to audiology, emphasizing the synthesis of theory with clinical practice.

CSD 651. Disorders of Speech Resonance. 2 credits.

The study of cleft palate and other orofacial abnormalities and their associated speech disorders. Advanced study in the diagnosis and management of cleft palate speech will be provided.

CSD 656. Voice Disorders. 3 credits.

The study of laryngeal functions and disorders. In-depth study of acoustic and physiologic parameters of the vocal mechanism. Emphasis is given to the diagnosis and management of vocal pathologies.

CSD 659. Reading and Research in Audiology. 1-3 credits.

This course will review recent professional literature of interest with emphasis on content and research design. For students not electing the thesis option, a study of empirical nature will be required.

CSD 680. Reading and Research. 1-3 credits.

Designed to allow graduate students to pursue independent study and/or research in the area of speech, language and hearing disorders under appropriate faculty supervision. May be repeated for credit. *Prerequisite: Permission of department head.*

CSD 681. Hearing for SLP. 1 credit.

Supervised practicum. Length and frequency of clinical experience determined by CAC and the director of clinical education in accordance with student's clinical needs.

CSD 682. Extern Speech Practicum. 2 credits.

Supervised speech-language pathology practicum. This practicum course must be completed as part of the total 10 credits in practicum courses. Length and frequency of clinical experience determined by CAC and the director of clinical education in accordance with student's clinical needs. *Prerequisites: CSD 582, CSD 583, CSD 584, CSD 585, or CSD 586 and, if in an adult setting off-campus, CSD 544.*

CSD 683. Extern Speech Practicum. 2-7 credits or

CE 650. Graduate Internship. 1-5 credits.

Supervised speech-language pathology practicum. Length and frequency of clinical experience determined by CAC and the director of clinical education in accordance with student's clinical needs. Both CSD 683 and CE 650 may be repeated for credit. *Prerequisites: CSD 682, permission of head of department and, if in an adult setting, CSD 544.*

CSD 690. Advanced Seminar in Speech Pathology and Audiology. 1- 3 credits.

This course will cover advanced considerations relative to the diagnosis and management of individuals with speech, language and hearing disorders. *Prerequisite: Permission of department head.*

CSD 691. Professional Seminar in Audiology. 1-3 credits.

A review of professional training emphasizing case management using a grand rounds approach. This course will serve as a capstone experience integrating theory and practice; it will be offered in conjunction with the full-time externship experience.

CSD 698. Comprehensive Continuance. 1 credit.

Continued preparation in anticipation of the comprehensive examination. Course may be repeated.

CSD 699. Thesis Continuance. 2 credits.

Continued study, research and writing in the area of thesis concentration. Course may be repeated as needed will not be required to complete the written comprehensive examination. Students should talk with their advisers prior to selecting this option.

CSD 700. Thesis. 1- 6 credits.

The thesis option generally requires three to four semesters to complete. Students choosing the thesis option will not be required to complete the written comprehensive examination. Students should talk with their adviser prior to this option.

CSD 710. Seminar in Audiology (Geriatric Audiology). 1 credit.

The study of the aging process as it relates to communication and hearing. Evaluation and treatment strategies for the geriatric client are emphasized, along with special topics related to aging including auditory anatomy and physiology, diagnostic and rehabilitative services, and changes in auditory perception with advancing age.

CSD 711. Pediatric Audiology. 3 credits.

Normal and pathological development of the auditory system; pediatric audiometric assessment; auditory and communication aspects in the habilitation of hearing-impaired children.

CSD 717, 817, 917. Directed Research. 1-3 credits.

This course sequence provides opportunity for research in an area of special interest as directed by a faculty mentor. Emphasis on developing a question and hypothesis, selecting subjects and variables to investigate, collecting and analyzing data, and reporting results should provide the student with a meaningful research experience.

CSD 718, 818, 918. Independent Study. 1-3 credits.

This course sequence provides opportunities for in-depth study in an area of special interest as directed by a faculty member.

CSD 719. Audiology Clinical Rotation B. 3 credits.

Supervised clinical practicum at clinical settings external to the Communication Sciences and Disorders Applied Laboratory. *Prerequisites: CSD 639 and permission of head of department.*

CSD 720. Seminar in Audiology (Cochlear Implants). 1 credit.

This course addresses selected topics, issues and other content designed to prepare students for clinical practice in audiology. Content is treated on an advanced level with emphasis upon problem solving and integration of information across didactic and practical knowledge toward clinical skill development.

CSD 721. Hearing Aids and Signal Processing. 3 credits.

Study of advanced concepts in signal processing as applied to real-world applications in digital speech processing, active noise reduction, and applications in advanced hearing device designs and telecommunications.

CSD 729. Audiology Clinical Rotation C. 3 credits.

Supervised clinical practicum at clinical settings external to the Communication Sciences and Disorders Applied Laboratory. *Prerequisites: CSD 719 and permission of head of department.*

CSD 731. Medical Audiology. 2 credits.

Advanced study of the diagnosis and evaluation of hearing and balance disorders.

CSD 791. Directed Research. 1 credit.

This course provides the opportunity for research in an area of special interest as directed by a faculty mentor. Students are required to participate in gathering data and observing the process of developing new knowledge through research. Emphasis is placed on the student becoming an expert consumer of research, as well as gaining an appreciation for research methodology.

CSD 792. Directed Research. 1 credit.

This course provides the opportunity for research in an area of special interest as directed by a faculty mentor. Students are required to participate in gathering data and observing the process of developing new knowledge through research. Emphasis is placed on the student becoming an expert consumer of research, as well as gaining an appreciation for research methodology.

CSD 793. Directed Research. 1 credit.

This course provides the opportunity for research in an area of special interest as directed by a faculty mentor. Students are required to participate in gathering data and observing the process of developing new knowledge through research. Emphasis is placed on the student becoming an expert consumer of research, as well as gaining an appreciation for research methodology.

CSD 805. Methods of Measurement in CSD. 3 credits.

Principles for applying instruments, technologies and measurement tools to research in a wide variety of investigations and clinical applications in communication sciences and disorders. A survey and in-depth review of the principal equipment and instrumentation that is available and predicted to be available to researchers and clinicians in the communication sciences and disorders.

CSD 806. Ph.D. Professional Development Seminar I. 1 credit.

Discusses issues related to success in Ph.D. programs and development of skills as a researcher, leader, expert clinician and academician, such as characteristics of successful Ph.D. students; approaches to integrating course work; research learning; preparing review papers and research proposals; ethics in Ph.D. education and research; issues related to IRBs; intellectual property; collaborations; scholarly networks; authorships; and the funding of research. Topics are selected and designed to meet the individual needs of specific cohorts of CSD Ph.D. students early in their programs.

CSD 807. Ph.D. Professional Development Seminar II. 1 credit.

Discusses issues related to preparing for the dissertation experience and life beyond a Ph.D. program. Topics may include strategies for writing up scientific results; differences between dissertations and research articles; getting into print; strategies for presenting research and strategic selection of venues; and planning and developing an academic/research career, such as the first job and post docs, choosing the employer, the application and selection process, establishing oneself as a researcher, scholar, and academic, surviving the first university position, facts and fiction of tenure and promotion, and thinking beyond the first job (career planning). Specific topics are selected and designed to meet the individual needs of specific cohorts of CSD Ph.D. students that apply later in their programs.

CSD 810. Professional Seminar in Audiology. 1-3 credits.

This course addresses selected topics, issues and other content designed to prepare students for clinical practice in audiology. Content is treated on an expert level with emphasis upon problem solving and integration of information across didactic and practical knowledge toward clinical skill development.

CSD 819. Audiology Externship A. 1-6 credits or **CE 850. Professional Internship.** 1-5 credits, which may be repeated for credit.

Full-time clinical practicum with limited supervision at clinical settings external to the Communication Sciences and Disorders Applied Laboratory. *Prerequisites: CSD 729, permission of instructor and head of department.*

CSD 820. Professional Seminar in Audiology. 1-3 credits.

This course addresses selected topics, issues and other content designed to prepare students for clinical practice in audiology. Content is treated on an expert level with emphasis upon problem solving and integration of information across didactic and practical knowledge toward clinical skill development.

CSD 829. Audiology Externship B. 1-6 credits or **CE 850. Professional Internship.** 1-5 credits, which may be repeated for credit.

Full-time clinical practicum with limited supervision at clinical settings external to the Communication Sciences and Disorders Applied Laboratory. *Prerequisites: CSD 819, permission of instructor and head of department.*

CSD 830. Professional Seminar in Audiology. 1-3 credits.

This course addresses selected topics, issues and other content designed to prepare students for clinical practice in audiology. Content is treated on an expert level with emphasis upon problem solving and integration of information across didactic and practical knowledge toward clinical skill development.

CSD 839. Audiology Externship C. 1-6 credits or **CE 850. Professional Internship.** 1-5 credits, which may be repeated for credit.

Full-time clinical practicum with limited supervision at clinical settings external to the Communication Sciences and Disorders Applied Laboratory. This course may be repeated, with permission of the instructor, for up to 6 credits. *Prerequisites: CSD 829, permission of instructor and department head.*

CSD 841. Teaching Experience in CSD. 2 credits.

With a faculty member, the student will engage in team-teaching of selected undergraduate/graduate course(s). In preparing for the teaching experience, students will examine scholarly literature related to the development of course objectives and learning activities, theories of student's learning at the college level, and method of assessment at the college level.

CSD 842. Supervision Experience in CSD. 2 credits.

Students enrolled in the course may be supervised in a clinical assignment or, if ASHA certification has been awarded, as a supervisor. Students and supervisors will be equipped for participation in the clinical teaching process. The tasks and skills of clinical teaching is a specialty area of practice as it relates to the interaction between a clinician and client. Clinical teaching will be examined through observation, conferences, review of records and communication skills. Competencies for the student clinician and for the clinical teacher will be examined in the literature and incorporated into presentation of research in supervision and current trends in work settings.

CSD 850. Advanced Seminar in CSD: Adult Language Disorders. 2-3 credits.

This seminar focuses on the current views of etiology, assessment and treatment procedures of adult language disorders.

CSD 851. Advanced Seminar in CSD: Child Language Disorders. 2-3 credits.

This seminar focuses on the current views of etiology, assessment and treatment procedures of child language disorders.

CSD 852. Advanced Seminar in CSD: Communication Enhancement. 2-3 credits.

This seminar focuses on the current views of assessment and treatment procedures of communication enhancement.

CSD 853. Advanced Seminar in CSD: Aerodigestive Concerns. 2-3 credits.

This seminar focuses on the current views of etiology, assessment and treatment procedures of aerodigestive disorders.

CSD 854. Advanced Seminar in CSD: Early Intervention. 2-3 credits.

This seminar focuses on the current views of assessment and treatment procedures of early intervention.

CSD 855. Advanced Seminar in CSD: Fluency Disorders. 2-3 credits.

This seminar focuses on the current views of etiology, assessment and treatment procedures of fluency disorders.

CSD 856. Advanced Seminar in CSD: Normal Communication Development. 2-3 credits.

This seminar focuses on the current views of human communication development over the life span.

CSD 857. Advanced Seminar in CSD: Motor Speech Disorders. 2-3 credits.

This seminar focuses on the current views of etiology, assessment and treatment procedures of motor speech disorders.

CSD 858. Advanced Seminar in CSD: Neurolinguistics. 2-3 credits.

This seminar would be devoted to study and discussion of one or more topics current in neurolinguistic investigation. Possible topics include PET and fMRI studies of language processing; event-related potentials; connectionist models of speech errors and paraphasias; morphosyntactic disorders in language disorders; role of prosody in language processing and neurological disorders; pragmatic studies of populations with brain damage.

CSD 859. Advanced Seminar in CSD: Clinical Phonology Disorders. 2-3 credits.

This seminar focuses on the current views of etiology, assessment and treatment procedures of phonological disorders.

CSD 860. Advanced Seminar in CSD: Disorders of Resonance. 2-3 credits.

This seminar focuses on the current views of etiology, assessment and treatment procedures of disorders of resonance.

CSD 861. Advanced Seminar in CSD: Voice Disorders. 2-3 credits.

This seminar focuses on the current views of etiology, assessment and treatment procedures of voice disorders.

CSD 862. Advanced Seminar in CSD: Selected Topics I. 2-3 credits.

This seminar focuses on advanced study of selected topics of interest in communication sciences and disorders. May be repeated for credit.

CSD 865. Advanced Seminar in CSD: Infant Language and Speech Perception. 2-3 credits.

Topics include infant speech perception, production and the link between production and perception, infant language development in the larger cognitive context highlighting the links between language, memory, motor skills, vision, innate ability and consciousness, the impact of developmental disorders on early language development, and how ontogeny can inform phylogeny. Transcription of infant speech, identification of words and play activities, and analysis of speech perception data are included.

CSD 866. Advanced Seminar in CSD: Genetic Bases of Communication Disorders. 2-3 credits.

This seminar will examine current knowledge with regard the genetic bases of a range of hearing, speech and language impairments. Implications for clinical intervention and future research directions will be explored.

CSD 867. Experimental Phonetics. 3 credits.

Advanced and in-depth study of speech perception and production, including acoustics, intelligibility, current technologies and instrumentations, and theoretical models guiding research approaches.

CSD 920. Doctoral Dissertation in CSD. 1-12 credits.

Culminating research project. Enrollment beyond second semester is contingent upon dissertation committee approval.

CSD 921. Dissertation Continuance. 1 credit.

Required continuance for dissertation after 12 credits earned for CSD 920.