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PREFACE

This Handbook is written to assist the student and faculty in their journey through the doctoral program in the Department of Communication Sciences and Disorders. The procedures within this document are guidelines and policy of the department and the university. We urge you to refer to this as you progress through the program. Please remember, however, that some parts of the doctoral program are established, or newly established, and that all parts are constantly evolving. As such, the Doctoral Education Committee may modify this handbook as needed.

It is important as students that you keep abreast of all changes. If you have any questions concerning the program, please feel free to communicate your questions or concerns to us.

Good luck with your studies, and remember to take the time to enjoy the experience.

Jamie L Perry, PhD  
Chairperson, CSDI

Charles Ellis Jr., PhD  
Director of Doctoral Education
THE FACULTY

The full-time faculty in Communication Sciences and Disorders includes individuals representing a wide range of professional interests and educational backgrounds including audiology, hearing science, experimental psychology, physiology, psychoacoustics, neurolinguistics, neurophysiology, speech language pathology, and speech science.

Deborah Culbertson, PhD (Clinical Associate Professor), University of Iowa
William J. Eblin, Jr., AuD (Clinical Instructor; Audiology Program Director) Auburn University
Charles Ellis Jr., PhD (Associate Professor; PhD Program Director), University of Florida
Gregg D. Givens, PhD (Professor), Florida State University
Yolanda Holt, PhD (Assistant Professor), Ohio State University
Lucía I. Méndez, PhD (Assistant Professor), University of North Carolina
Jamie Perry, PhD (Associate Professor; Chairperson), University of Illinois
Balaji Rangarathnam, PhD (Assistant Professor), University of Arkansas for Medical Sciences
Andrew Stuart, PhD (Professor), Dalhousie University
Andrew Vermiglio, AuD (Assistant Professor), Central Michigan University
Marianna Walker, PhD (Associate Professor), North Carolina State University
Heather Harris Wright, PhD (Professor), University of Georgia
Ning Zhou, PhD (Assistant Professor), Ohio University
DOCTORAL STUDIES IN COMMUNICATION SCIENCES AND DISORDERS

Our doctoral program is designed for advanced scholars with interest in communication sciences and disorders. The two broad areas of study within the program are speech-language pathology and audiology. Students may enroll in one of two tracks of study. A research concentration is offered in speech-language pathology or audiology.

The doctorate prepares qualifies you to teach in a college or university and to carry out research in speech-language pathology or audiology. All students are required to complete a dissertation project prior to being awarded the Doctor of Philosophy (PhD) degree.

The graduate programs in speech-language pathology and audiology emphasize training for research. They are best described as "apprenticeship" programs in which students work closely with a faculty member who has agreed to supervise the student's research. We place less emphasis on course work with a greater emphasis on research, scholarship, and independent thinking.

Students enrolled are required to take course work in the following areas:

- Science core: which may include computer applications to the fields, physiology, acoustics, or language science (speech-language pathology concentration)
- Support core: which may be taken across disciplines
- Statistics core: which is designed to train the student in the areas of research design and biostatistical analyses
- Concentration core: which is designed to prepare the student with content area expertise.
  This core is developed with the Major Professor in consultation with the Program Committee.

Students are involved in research from the outset, and are expected to conduct research leading to empirical, methodological, and/or theoretical advances in their field of study. Following completion of didactic and preliminary research requirements, students are expected to conduct research that will be included in their dissertation and defended publicly.

Admission

The Admissions Committee will make a holistic judgment of applicant qualifications. Admission to study at the doctoral level requires acceptance by the Graduate School and the department. The application for admission to the Graduate School and official transcripts from each college or university attended must be sent to the Graduate School.

Applicants seeking admission to the doctoral program should have completed a well-integrated program of study that includes course work in biological/physical sciences and mathematics, behavioral and/or social sciences, and human communication sciences and disorders. Applicants are strongly encouraged to identify a Major Professor as part of the application process to assist with identification of student funding sources and faculty availability for mentoring.
Specific Requirements
1. Bachelor’s or master's degree or its equivalent from an accredited institution in speech-language pathology, audiology, communication sciences or related area, with a minimum overall grade point average of 3.5 (on a scale of A=4.0).

2. Graduate Record Examination within five years. Recent applicants have had mean GRE scores of 150 for verbal, 150 for quantitative, and 4.5 for analytic writing. The GRE is waived as an entrance requirement for Merit Scholars at East Carolina University if other criteria are met.

3. Three (3) letters of recommendation, at least two from faculty of the college(s) or university(s) previously attended.

4. A sample of scholarly writing which may be a thesis, a published or unpublished reprint, or term paper.

5. A statement that summarizes reasons for pursuing doctoral study and doctoral research objectives in as much detail as possible.

6. Telephone or face-to-face interview.

Degree Requirements
The research concentration requires a minimum 53 s.h. of didactic and research experiences beyond the master’s degree or 95 s.h. beyond the bachelor’s degree. The student will develop a background in a science core curriculum (12 hours, minimum), a support core taken across disciplines (9 hours, minimum), a statistics core (statistics and research design) (9 hours, minimum), research ethics (2 hours, minimum), research internships (6 hours, minimum), and dissertation (3 hours, minimum). The student and Major Professor in consultation with the Program Committee will select and design an area of major concentration that includes 12 s.h. of course work or independent studies.

Except for credits accepted by transfer, the Department of Communication Sciences and Disorders requires that all graduate work, including the dissertation, be completed in residence. The course of study ordinarily requires four years of full-time study.

Transfer Credit
Credit will be accepted for transfer at the discretion of the Department of Communication Sciences and Disorders and the Dean of the Graduate School. A maximum of 9 s.h. of doctoral credit (course work taken beyond the master's degree) may be applied toward the support and/or statistics cores.
**Doctoral Candidacy Requirements**
Following completion of most course work and prior to admission to candidacy for the PhD, students must pass a comprehensive examination intended to test fundamental knowledge in both the major and support fields. The candidate will undergo written and oral examinations. The student’s Program Committee is responsible for the administration and evaluation of the comprehensive examination. The candidacy recommendation of the committee is sent to the Director of Doctoral Education who forwards it to the Dean of the Graduate School.

**Doctoral Dissertation**
After passing the comprehensive examination, the candidate must initiate the development of an appropriate dissertation research project. The dissertation must reflect independent, scholarly research that will contribute significant new knowledge to the candidate's area of concentration.

Prior to initiating the dissertation research, the candidate's Dissertation Committee must approve the prospectus of the proposed dissertation. The candidate formally presents the prospectus to the faculty of the Department of Communication Sciences and Disorders at an open meeting. The Dissertation Committee must agree that the research proposal is satisfactory, with no more than one dissenting vote allowed.

Upon the satisfactory completion of all requirements, the Major Professor, Dissertation Committee and Departmental Chairperson will recommend to the Dean of the Graduate School the award of the doctoral degree. Students are referred to the Graduate School website for dissertation formatting and electronic submission.

**Program Enrichment**
In addition to course requirements, each student may be assigned various preceptorships involving mentored classroom and clinical instruction and administration to assist the student in gaining perspective and experience in university teaching, clinical supervision, and management. Students will be encouraged to participate in university-wide seminars. This enrichment may include being required to take a didactic course on teaching if the student is assigned to teach courses as part of an assistantship or other contract.

**Time Limits for Completion Of Degree Requirements**
A doctoral degree program must be completed before the end of the twelfth semester, excluding summers, following initial enrollment. With endorsement of the student’s Major Professor and Program Committee and also the Departmental Chairperson, a student may request one extension of not more than two semesters, summers included.

**Termination or Continuance of Graduate Study**
Failure to meet the requirements of the program as outlined by the Graduate School (www.ecu.edu/gradschool) will result in termination of graduate study. Graduate School regulations for most academic issues are utilized and can be found in the Academic Regulations section of this catalog. For the purposes of retention in communication and sciences disorders,
PhD program, the Department of Communication Sciences and Disorders has developed and adopted stricter standards than the Graduate School.

The ECU Graduate School requires a 3.0 GPA for retention and graduation. In addition, the Department of Communication Sciences and Disorders requires that students earn no less than a grade of “B” in more than 1 course during their degree program. This includes all departmental courses including didactic, clinical, or research taught by any delivery method.

Upon receipt of the second grade of less than a “B,” a review of the student’s academic and clinical progress will be conducted by the student’s advisor, the director of doctoral education, and the departmental chair. Recommendations for continuance or termination will be made to the doctoral education committee for consideration. If the decision of the doctoral education committee is for termination, this will be communicated by the director of doctoral education to the student and the Graduate School. If the decision is for continuation, this will be communicated to the student.

Upon the 3rd course with lower than a “B” grade, the director of doctoral education shall notify in writing the student and the Graduate School that the student’s degree program is terminated. The student can appeal this termination by writing a letter to the director of doctoral education and asking the doctoral education committee for reinstatement. The director of doctoral education will convey the decision of the committee to the student and the Graduate School. If allowed to continue in the program, the student may not earn any additional credit hours of less than a “B” grade. If terminated at this point the student may appeal the decision through the ECU school appeals procedure (Rev. September 2011).

Committees

1. Program Committee
   Upon entering the program a Major Professor will be selected. This selection will take place prior to or during the first semester. Selection will be based on the student’s professional interests, faculty professional interests, and faculty availability. The student, Director of Doctoral Education, and the involved faculty will make the selection. The Major Professor will monitor the student’s academic and research progress closely. The student and his/her Major Professor will establish a Program Committee. This also will be accomplished during the first semester of study. The Program Committee must consist of a minimum of three faculty members. The Major Professor and Program Committee oversee the student’s completion of the first year research project and comprehensive examinations. A change in Major Professor may be made after consultation with the involved faculty, Director of Doctoral Education, and the Departmental Chairperson.

2. Dissertation Committee
   After passing the comprehensive examination, the candidate must establish a Dissertation Committee and initiate the development of an appropriate dissertation research project. The dissertation must reflect original and independent, scholarly research that will contribute
significant new knowledge to the candidate's area of major concentration. The student will choose the Dissertation Committee with assistance from his/her Major Professor.

Faculty chairing or serving on dissertation committees must have appropriate graduate faculty status as defined in the East Carolina University Faculty Manual. All members of a dissertation committee must have either associate graduate faculty status or full graduate faculty status. The committee must consist of a minimum of three graduate faculty members.

Program of Study
Once the Program Committee is established, a Tentative Program of Study will be completed with the Major Professor in consultation with the Program Committee. This is to be accomplished by the end of the student’s first year of study. This document is to plan for the student’s upcoming course enrollment. This document will serve as a guide for the student and the Program Committee and should be updated annually.

Annual Review
After the completion of each year of study, several review documents are to be completed. The student will update the Program of Study Form and complete the Annual Review Form. This document is a review of the courses and research completed during the past year. To accomplish this review, several areas are evaluated: course work, research, and assistantship (if applicable) activity. Faculty involved with the supervision of a student will be asked to evaluate the student’s performance in these areas during the Annual Doctoral Student Review meeting conducted by the CSDI Doctoral Education Committee. The Director of Doctoral Education will complete a synopsis of the annual program review. The Major Professor, Director of Doctoral Education and the student will meet, examine the review, and sign the synopsis upon completion of this meeting. This document is to be distributed to the student’s Program Committee, Director of Doctoral Education, and Departmental Chair by June 30, with a copy placed in the student’s departmental file.

Program Requirements: Course Work
The didactic portion of the doctoral program consists of a science core curriculum (minimum 12 semester hours), a support core taken across disciplines (minimum 9 semester hours), and a statistics and research design core (minimum 9 semester hours). In addition, the student will select an area of major concentration in conjunction with his/her Major Professor. The area of major concentration will entail a minimum of four courses or independent studies taken from the Major Professor or from other doctoral faculty (minimum 12 semester hours).

Program Requirements: First Year Research Project
Each student is required to complete a research project by the end of first year under the direction of his/her Major Professor. Successful completion of the research project requires (1) the student giving a formal presentation of the work at an open forum that includes students, faculty, and staff and (2) approval of the written document by his/her Major Professor and Program Committee which should be submitted for publication before the end of the first year in the program. The student’s Major Professor and Program Committee may have additional
requirements the student needs to meet to successfully complete the first year project. The Major Professor and Program Committee will issue a grade of “satisfactory”, “unsatisfactory with stipulations”, or “fail”. The recommendation of the committee is sent to the Director of Doctoral Education.

- **Satisfactory** indicates the student has successfully completed and defended the first year project.
- **Unsatisfactory with stipulations** indicates the student showed some weaknesses in one or more areas (written paper, oral presentation) and the Program Committee determines a remediation plan and timeline for completing required activities.
- **Fail** indicates the student’s performance on the written and oral presentation was unsatisfactory. The Major Professor will summarize the committee’s evaluation of the student’s performance, recommend dismissal from the program, and submit it to the Director of Doctoral Education and the Department Chair.

**Program Requirements: Comprehensive Examinations**
Students must pass an examination intended to test fundamental knowledge in both the major and support fields prior to being admitted formally to candidacy for the PhD. The comprehensive examination includes two parts: (1) written examination and (2) oral defense.

**Policy for Completion**
The Doctoral Education Committee in the Department of Communication Sciences and Disorders has established this policy. All doctoral students in the Department of Communication Sciences and Disorders will complete their comprehensive examinations via this policy.

**Written Examination**
The purpose of the written examination is to determine the student’s ability to integrate, analyze, and synthesize information in his/her area(s) of expertise in a written format. The student will be eligible to begin the comprehensive examination when all Program of Study coursework has been completed as determined by the student’s Major Professor and Program Committee.

The student’s Major Professor and Program Committee will determine the composition of the written examination. Successful completion of the written examination (including any portions of the exam that are unsatisfactory and require a retake) must be completed within one semester and failure to do so are grounds for dismissal from the program. The written examination may include (but is not limited to):

- Field-based questions
- Integrative paper
- In-house questions
- Grant proposal
- A combination of these or other written formats deemed appropriate by the Major Professor and Program Committee
The Program Committee members reviewing the responses will notify the Major Professor of their rating/evaluation of the responses within one week of the examination. The Major Professor will notify the Director of Doctoral Education in writing of all feedback from the Program Committee. The Committee member(s) submitting a particular question will evaluate that question only but may also read the student’s other written responses.

Committee members will rate the responses as satisfactory or unsatisfactory. If the student receives unsatisfactory for any part of the written examination, the student must meet with the committee member to discuss areas of weakness prior to retaking those portion(s) of the exam. The student must re-write the unsatisfactory portion(s) of the comprehensive examination no less than one-month and not more than two months following the delivery of the unsatisfactory review. Failure to do so will result in termination of the student from the program.

The Committee member(s) who developed the question(s) will review the rewrite. Failure of the written examination question(s) a second time will result in termination of the student from the program.

Upon successful completion of the written examination, the oral defense will be scheduled.

**Oral Defense**

The purpose of the oral defense is to determine the student’s mastery and integration of all materials tested.

The Major Professor and Program Committee in consultation with the student will determine the projected date of the oral defense based on when the written portions of the comprehensive examinations are successfully completed. This date will be no sooner than two weeks and not more than four months following successful completion of the written examination. The Major Professor will notify the Director of Doctoral Education of the oral defense date, time, and location. There will be no specified time minimum or limit for the oral defense of comprehensives. Previous experience has shown that typical defenses last from approximately 1.5-2.5 hours.

The Major Professor and Program Committee members will judge the oral defense as satisfactory, satisfactory with deficiencies, or unsatisfactory. Receiving more than one unsatisfactory vote at the oral defense of the comprehensive examination will be considered a fail.

If the student is judged as Satisfactory with Deficiencies, then these deficiencies shall be described for the student and the processes for removing the deficiencies explained by the Major Professor and Program Committee at the conclusion of the defense.

Students judged as not passing may submit to another oral defense. The Major Professor and Program Committee will determine an appropriate remediation process for the student to complete prior to the second oral defense and will inform the Director of Doctoral Education of
the remediation plan. The second oral defense will be scheduled not less than one month and not more than four months following the first oral defense.

Failure of the oral defense the second time will result in termination of the student's program.

The Director of Doctoral Education will forward the results of the oral examination to the Dean of the Graduate School.

Following successful completion of the comprehensive examination the student is recommended to candidacy for the degree, Doctor of Philosophy.

**Program Requirements: Doctoral Dissertation**

**Prospectus**

Prior to initiating the dissertation research, the candidate’s Dissertation Committee must approve a written prospectus and oral presentation of the proposed dissertation. Public announcement of the Prospectus Presentation must be made to the Department. Upon completion of the Prospectus Presentation, the *CSDI Doctoral Prospectus Report Form* is completed and returned to the Director of Doctoral Education and Departmental Chair for signatures and a copy placed in the student’s departmental file. The *Pre-Thesis or –Dissertation Research Approval Form* is also completed and submitted to the Director of Doctoral Education who will then forward the results to the Dean of the Graduate School.

The prospectus of the proposed dissertation should contain the following:

1. A review of the pertinent literature,
2. A statement of the nature of the problem and the objectives of the proposed investigation,
3. A complete methodology, based on preliminary pilot investigations, which include a description and number of participants to be studied, a discussion of the dependent and independent variables that will be manipulated, and a detailed description of the experimental procedures to be employed, including all experimental instrumentation,
4. A detailed outline and justification of the statistical analysis of the data that will be obtained.

The approved prospectus becomes a contract between the candidate and the Dissertation Committee. The Dissertation Committee must agree that the research proposal is satisfactory, with no more than one dissenting vote allowed. Dissertation data collection cannot occur prior to approval of the prospectus by the Dissertation Committee.

**Dissertation**

The candidate will present his/her dissertation research in an open forum. This will be followed by a closed defense of the candidate’s research with the Program Committee. The Dissertation
Committee will recommend to the Director of Doctoral Education and the Departmental Chairperson to award or not award the degree with stated specifications. The Director of Doctoral Education will forward this recommendation to the Dean of the Graduate School.

Public announcement of the Dissertation Defense must be made to the university community. All arrangements for public announcements must be made through the Office of the Dean of the College of Allied Health Sciences. Announcements should be made via flyers and through the East Carolina University ANNOUNCE system with university-wide e-mail distribution. Students must comply with submission deadlines in order that the announcement of the defense appears at least two weeks prior to the defense. Public defense of the dissertation cannot occur without published announcements of the title, date, place, time and name of the defender.

Following successful oral defense of the dissertation, the Dissertation Committee will make a formal written outline of the required changes to the dissertation within one week of the dissertation defense as to what revisions are required and when these required changes must be completed. The student and Dissertation Committee will sign this document as an agreement acknowledging the required changes and deadline date. The revision deadline must be within six months of the defense date. The student is required to submit the revised dissertation to the Dissertation Committee by the agreed upon deadline. Failure to do so will result in the termination of the student’s program. The student may petition the Doctoral Education Committee for an extension of the revision deadline.

The guidelines for completion of the doctoral dissertation described herein are in accordance with the regulations of the Department of Communication Sciences and Disorders and the general requirements of the Graduate School found in the East Carolina University Graduate School Bulletin.

There are two dates for Commencement (in May and December). Please consult the University Calendar for the last date to submit copies of the dissertation to the Graduate School for completion of the degree in the spring, fall, or summer term.

APPLICATION TO GRADUATE
Following successful completion of the requirements of the doctorate degree as determined by the Major Professor, students must make a formal application for graduation (http://www.ecu.edu/cs-acad/gradschool/graduation.cfm).

The Application for Graduation must be made and submitted to the Office of the Registrar at least one semester prior to completing the requirements of the degree as stated by the Graduate Catalog. Students must also complete the Graduate Summary Form. Submit both completed and printed forms to the Graduation Services office in the Office of the Registrar.
COURSES

Recommended Statistics Core
Graduate Certificate in Quantitative Methods for the Social and Behavioral Sciences (15 hrs)
The objective of the Graduate Certificate in Quantitative Methods for the Social and Behavioral Sciences (GC-QMSBS) is to train individuals in the interpretation, application, and design of advanced statistical methods and their applications in behavioral and social sciences. The Graduate Certificate in Quantitative Methods is offered in the Department of Psychology.

Required Courses
- PSYC 6327 - Methods in Human Measurement
- PSYC 6430 - Statistics and Research Design
- PSYC 7431 - Advanced Research Design
- PSYC 7433 - Multivariate Statistical Analysis
- PSYC 7505 - Structural Equation and Hierarchical Linear Modeling

Note: As other programs within the university offer similar courses, students will be allowed to substitute up to two of the required courses with other statistics courses offered by the university following approval by the certificate coordinator.

CSDI DEPARTMENTAL DOCTORAL COURSES

CSDI/GRAD 7004 Research Ethics for a Complex World (2)
P: Current enrollment in master's or doctoral program. Introductory graduate course. Case studies, readings, policy review, assignments, and discussions with guest faculty examine areas of ethical concern for researchers. Areas include scientific misconduct, conflict of interest, abusive mentoring, improper authorship practices, and protection of human participants, animal subjects of research, and others.

CSDI 7500 Professional Issues in Communication Disorders (3)
P: Consent of Instructor. Contemporary topics in administration of clinical programs in speech-language pathology and audiology, clinical supervision models, theories of leadership, state licensure and national certification standards, legal and other current issues.

CSDI 8000 Methods in Clinical Audiology (3)
P: Consent of instructor. In-depth understanding of issues and employment of basic and advanced auditory tests. An emphasis is placed on the relationship between these topics and the clinical competency required with advanced testing and diagnosis.

CSDI 8001 Anatomy and Physiology of the Vestibular System (2)
P: Consent of Instructor. Functional anatomy and neurophysiology of vestibular and balance systems, from level of inner ear to central nervous system. Emphasis on describing anatomical and physiological bases for both normal and pathological vestibular and balance functions.
**CSDI 8002 Assessment and Management of the Vestibular System (3)**
P: CSDI 8001 and consent of instructor. Theory and clinical application of current electrophysiological procedures for assessing the peripheral and central nervous system portions of the vestibular and balance systems.

**CSDI 8003 Advanced Pediatric Assessment (3)**

**CSDI 8004 Embryology, Genetics, and the Auditory System (3)**
P: CSDI 6000, 6013; or consent of instructor. Comprehensive study of embryology, genetics and syndromes as related to the auditory system.

**CSDI 8005 Methods in Amplification (3)**
P: Consent of instructor. Study of the components and functions of amplification systems, hearing aid evaluation and selection, and related regulation. Emphasis on current research, software applications, and clinical implications for high performance technology systems.

**CSDI 8006 Auditory Processing (3)**
P: CSDI 8000 or consent of instructor. Contemporary theories of auditory processing. Methodologies in assessment and management of auditory processing skills and disorders.

**CSDI 8007 Methods in Clinical Audiology Lab (1)**
P: Consent of instructor; C: CSDI 8000. Hearing evaluation laboratory.

**CSDI 8009 Psychoacoustics (3)**
P: Consent of instructor. Examines abilities and limitations of human hearing to discover how sounds entering the ear are processed to give listener useful information about the world outside. Specific topics include measurement methods; frequency, intensity and temporal encoding; localization; and speech perception.

**CSDI 8010 Computer and Instrumentation Applications to Speech and Hearing Science (3)**
Knowledge and skills in application of basic signal processing technologies in speech and hearing laboratories. Stimulus generation and analysis techniques as well as physiological recording methods. Emphasis on digital instrumentation training. Analog devices included as needed for certain applications.

**CSDI 8011 Advanced Acoustics (3)**
P: Consent of instructor. An advanced study of sound and acoustic vibration in the context of living organisms and hearing.
CSDI 8012 Physiological Phonetics (3)
P: CSDI 6121 or equivalent. Physiologic aspects of speech-motor production. Laboratory experiences include physiological measurements of respiratory, phonatory, articulatory, and resonance mechanisms.

CSDI 8013 Methods in Clinical Audiology II (3)
P: CSDI 8000 or consent of instructor. Analysis and synthesis of results from advanced audiological testing (behavioral, electrophysiological, and neurological) and differential diagnosis of auditory pathologies.

CSDI 8014 Acoustic Phonetics (3)
P: CSDI 6121 or equivalent. Acoustic theory of speech production and acoustic analysis of speech. Laboratory experiences include modern analytical techniques in speech analysis.

CSDI 8015 Electronic Instrumentation and Calibration in Speech and Hearing Science (3)
An advanced study of electronics, circuits, and instruments used in basic and applied research in the hearing and speech sciences.

CSDI 8016 Auditory Physiology (3)
P: CSDI 6009, 6010; or equivalent. Functional anatomy and physiology of auditory nervous system, from level of inner ear to cerebral cortex. Emphasis on describing anatomical and physiological bases for both normal and pathological hearing functions.

CSDI 8017 Advanced Methods in Amplification II (3)
P: CSDI 8005 or consent of instructor. Study of hearing aid selection, verification and outcome measures, fitting of amplification in special populations; includes in-class lab exercises.

CSDI 8018 Neurolinguistics (3)
P: CSDI 6101, 6103, 6110; or equivalent. Relationships between brain and language and between brain and other cognitive abilities that influence communication.

CSDI 8019 Electrophysiological Measures in Audition I (3)
P: CSDI 8000 or consent of instructor. Introduces issues underlying employment of theory and application of clinical use of clinical procedures in electrophysiological measurement of auditory function. Topics will be restricted to measurement techniques at auditory periphery and early-evoked potentials.

CSDI 8020 Advanced Seminar in Communication Sciences (1-9)
May register for maximum of 9 s.h. May count toward concentration area. P: Consent of instructor.
**CSDI 8021 Aural Rehabilitation (4)**
3 hours of didactic lecture and one weekly lab for development and implementation of a community-based program. P: CSDI 8013, 8100; or consent of instructor. Study of aural rehabilitation principles, methods, and technologies.

**CSDI 8022 Advanced Seminar in Audiology (1-9)**
May register for maximum of 9 s.h. May count toward concentration area. P: Consent of instructor.

**CSDI 8023 Advanced Seminar in Speech-Language Pathology (1-9)**
May register for maximum of 9 s.h. May count toward concentration area. P: Consent of instructor.

**CSDI 8024 Advanced Electrophysiological Measures (3)**
P: CSDI 8019 and consent of instructor. Latest developments in auditory neurophysiological measurement techniques. Review of test procedures in clinical use and those under research development. Focus on all levels of auditory system, from inner ear to temporal lobe. Intensive review of basic science and clinical research literature as well as hands-on laboratory experiences with new procedures.

**CSDI 8026 Electrophysiological Measures in Audition II (3)**
P: Consent of instructor. Introduces issues underlying theory and application of clinical use of measurement techniques for middle and late evoked potentials.

**CSDI 8027 Cochlear Implants (2)**
P: Consent of instructor. Applied and theoretical principles involved with cochlear implants, including candidacy, rehabilitation, and programming considerations.

**CSDI 8028 Auditory Pathologies (2)**
P: Consent of instructor. Medical/surgical procedures for treatment of disorders affecting auditory and vestibular systems and discussion of prognosis and treatment options.

**CSDI 8030 Doctoral Colloquium (1-9)**
May register for a maximum of 9 s.h. P: Consent of instructor. Current topics in field of communication sciences and disorders, varying from grantsmanship to health care leadership.

**CSDI 8070, 8071, 8072 8073 Research Internship: Communication Sciences (3,3,3,3)**
P: Consent of instructor. Directed research with CSDI doctoral faculty member.

**CSDI 8080, 8081, 8082, 8083 Research Internship: Audiology (3,3,3,3)**
P: Consent of instructor. Directed research with CSDI doctoral faculty member.

**CSDI 8090, 8091, 8092, 8093 Research Internship: Speech-Language-Pathology (3,3,3,3)**
P: Consent of instructor. Directed research with CSDI doctoral faculty member.
CSDI 8100 Advanced Audiology Methods Lab (1)
P: Consent of the instructor. Lab experiences in assessment of the auditory systems.

CSDI 8102 Vestibular Lab (1)
P: Consent of instructor. Lab experiences in assessment of vestibular and balance systems.

CSDI 8103 Electrophysiological Measures in Audition I - Laboratory (1)
P: Consent of instructor. Hands-on laboratory exercises for clinical procedures in electrophysiological measurement of auditory periphery and early-evoked potentials.

CSDI 8104 Electrophysiological Measures in Audition II - Laboratory (1)
P: CSDI 8019, 8103; or consent of instructor. Hands-on lab exercises for clinical procedures in electrophysiological measurement of middle and late evoked potentials.

CSDI 8150 Audiology Licensure, Certification and Related Issues (1)
P: Consent of Instructor. Current issues related to the laws, regulations, policies, and supervisory processes governing or related to the profession of audiology and speech-language pathologies.

CSDI 8234 Audiology Clinical Rotation (1-9)
May be repeated for credit. P: Consent of Instructor. Observations, readings, supervised clinical practicum, and weekly clinic meetings.

CSDI 8993 Clinical Residency (6-9)
P: Consent of instructor. May be repeated for credit. Clinical experience in application of knowledge, abilities, and advanced clinical skills.

CSDI 8999 Predoctoral Independent Study (1, 2, 3, 4, 5, 6)
** Cannot be taken until student has successfully completed the comprehensive examination  
May be repeated. Self-study of a range of topics and techniques relevant to preparation for undertaking dissertation research.

CSDI 9000 Dissertation (3-12)
May be repeated. May count maximum of 18 s.h. toward the degree.

CSDI 9001 Dissertation: Summer Research (1)
May be repeated. No credit may count toward degree. Students conducting dissertation research may only register for this course during the summer.
FACILITIES
The Department of Communication Sciences and Disorders at East Carolina University has established numerous research laboratories within its' departmental space located in the Allied Health and Nursing Building. These labs are to enhance the research and creative activity of the faculty and the graduate students.

Updated August 15, 2016