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Audiology

In the School of Speech, Language, and Hearing Sciences
In the College of Health and Human Services

Director of School: Marilyn Newhoff, Ph.D.

Faculty

The following faculty members of the cooperating institutions participate in the Au.D. program. These faculty teach courses, provide clinic instruction, provide research experiences, and are available as members of joint doctoral committees and advisers for student doctoral projects.

San Diego State University:

Steven J. Kramer, Ph.D., Professor of Speech, Language, and Hearing Sciences, Director of Program
Carol L. Mackersie, Ph.D., Associate Professor of Speech, Language, and Hearing Sciences
Laura Dreisbach Hawe, Ph.D., Assistant Professor of Speech, Language, and Hearing Sciences

University of California, San Diego:

Director: Jeffrey Harris, M.D., Ph.D.
Faculty: Benitez, Keithley, Mullen, Ryan, Virre

Doctoral Program

San Diego State University is in the process of securing final approval for the joint Au.D. program in Audiology with the University of California, San Diego. For further information, contact the School of Speech, Language, and Hearing Sciences.

General Information

(Major Code: 12202)

A professional doctorate in audiology (Au.D.) is offered jointly by San Diego State University (SDSU) and the University of California, San Diego (UCSD). The Au.D. program is a four-year graduate degree program designed for individuals who intend to specialize in clinical practice and to meet professional standards requiring a clinical doctorate as the entry-level degree for a certified audiologist. Graduates of this program will have the knowledge base, research exposure, and advanced clinical skills to enter the workforce in any setting, and will be prepared to function as independent audiology professionals in the expanding health care arena. The program encompasses academic, clinic, and research experiences in audiology and otology through the combined resources from the School of Speech, Language, and Hearing Sciences at SDSU and the Division of Surgery (Otolaryngology) in the School of Medicine at UCSD.

Admission to the Au.D. Program

Students will apply to the Au.D. joint doctoral program through SDSU. It is expected that students will come into this program from a variety of different science backgrounds, including speech, language, and hearing sciences, biological and physical sciences, engineering, psychology, nursing, or a pre-med curriculum. Applicants for admission to the Au.D. program must meet the general requirements for

admission to both universities with classified graduate standing as outlined in the respective catalogs. Applicants must also meet the special requirements of this program. These include (a) overall grade point average (GPA) of 3.20 or better in undergraduate courses and in any graduate courses completed; (b) submission of scores on the GRE with satisfactory performance on both quantitative and verbal portions of the examination; (c) prerequisite completion of at least one course in statistics, three courses in biological/physical sciences, two courses in behavioral/social sciences, and one course in American Sign Language. Deficiencies in these areas may be completed after admission to the program if approved by the admissions committee.

Applicants must submit transcripts of all post-secondary coursework, three letters of recommendation from former or current professors, supervisors, or other appropriate persons able to judge their academic potential, and an applicant essay (statement of purpose) indicating their interests and strengths relative to their career objectives. Details of these requirements are available on the school's Web site. Assuming that students meet the requirements for admission outlined above, each student admitted to the program will have a program advisor evaluate their preparation in view of their needs and career goals, as well as professional certification requirements.

Applicant files are reviewed as a group by an Admissions Committee composed of Au.D. program faculty from each campus. Other Au.D. program faculty may review files and make recommendations to the Admissions Committee. Given the limited number of spaces available (10 new admissions each year are anticipated, subject to available facilities), the Admissions Committee will select the best-qualified applicants to fill the available spaces. No minimum set of qualifications will guarantee an applicant admission to the program. The Admissions Committee will make recommendations for admission to the graduate deans from each campus.

Application. Students seeking admission to the Au.D. program should consult the school's Web site. All applications are done on-line. For additional information, write directly to the Au.D. Program Directors, School of Speech, Language, and Hearing Sciences (Mail Code 1518), San Diego State University, 5500 Campanile Dr., San Diego, CA 92182. A complete application requires the following:

- Appropriate applications (submitted on-line)
- Applicant Essay (details provided on the Web site)
- Transcripts of academic work completed
- Results of Graduate Record Examination
- Three letters of recommendation

Students will be admitted to the Au.D. program only in the fall semester (first year is at SDSU). Complete applications must be received by January 20 to be considered for the program beginning in the following fall semester.

Post Master's Degree Admissions

Students admitted to the Au.D. program with a master's degree in audiology will be expected to complete the four-year Au.D. curriculum. However, some students may have had a master's preparation in audiology in which some of the coursework was similar to some of the foundation courses in the Au.D. program. Upon entering the program, each individual will be assessed to determine competencies/knowledge in material that would put them on par with expectations for the Au.D. program. For some of the foundation core courses offered the

first year at SDSU, e.g., Audiology 705, 710, 725, students may be given credit for the courses or be required to substitute a Doctoral Special Study (Audiology 798) course for one or more of these courses to ensure competencies or remediate deficiencies if approved by the program faculty. Credit for some of the first year clinic units may also be approved based on work experience; however, a full-complement of expected clinical skills must be demonstrated.

Specific Requirements for the Au.D. Degree

Upon admission to the program, each student will be assigned a faculty adviser. The faculty adviser will help the student select a program of study to meet all program requirements. The Au.D. program is a four-year program, including summer semesters (summer semester between year 2 and year 3 may be optional if requirements satisfied in other ways). An exact unit minimum is not specified due to the mixing of semester units (SDSU) and quarter units (UCSD) and differences in clinical hours at different settings; however, the program is approximately 134 semester-equivalent course units. All students in the Au.D. program will fulfill the following requirements. Any alternative method of fulfilling these requirements requires advanced written permission from the program directors.

Residency Requirements. After formal admission to the Au.D. program, the student must complete a minimum of course hours equivalent to one year's full-time enrollment at each campus. The definition of residence must be in accord with the regulations of San Diego State University and the University of California, San Diego. The program is designed to be shared, as equally as possible, between the two campuses. The first year is entirely at SDSU, the second year is entirely at UCSD, and the third year will have options from both campuses. The fourth year of the program will be a full-time clinical externship at a program-approved clinic agency/site. Both campuses will share equally in the academic, clinic, and research components of the program.

Course Requirements. The program for each student will consist of 14 core courses, half of which are to be taken at each campus, and 12 elective courses, with a minimum of four to be taken at each campus. The student's faculty adviser must approve all courses.

Clinic Requirements. Each student will progress through a variety of clinical experiences involving patient assessment and management throughout their program of study. Clinic experiences will require concurrent enrollment in clinic courses appropriate for the campus in which they are doing the clinical work. These supervised clinical experiences are completed in the SDSU Audiology Clinic, UCSD Otolaryngology Clinics, and in community field sites. Clinic courses may be repeated as needed and require advisor approval prior to enrollment. Prior to the fourth year externship, each student will obtain approximately 500 hours of clinic experience. A minimum of 2000 clinical hours is required by the end of the program.

Clerkship in Otolaryngology. All students will have at least one quarter of a clinical rotation with otology staff associated with UCSD. Students will accompany one of the otology faculty during their clinics and receive training in one or more of the following areas: clinical otology, pre- and post-operative assessment of patients, pharmacology related to otology, design and implementation of clinical trials with balance disorders, and pediatric otology.

Clinical Staffings. In addition, all students will be required to regularly participate in formal clinical case study/staffing experiences. At SDSU, these clinical staffings include student and faculty presentations and discussions of interesting cases seen in their clinics. At UCSD, these staffings include, the Chairman's Conference, where Au.D. students/residents and medical staff discuss otological problem cases and disorders, and the Neurotology Conference, where UCSD and community physicians, and students/residents discuss cases dealing with neurological diseases and vestibular disorders.

Fourth Year Externship. The fourth year externship is a full time clinical experience in an approved agency/site. These externships may require a competitive interview process by the agency. Externship sites may be in other parts of the country. All students in their fourth year externship must also enroll in the on-line clinical seminar at SDSU each semester.

Research Practicum Requirement. Each student will spend at least two semesters or quarters participating in research being done by program faculty. Students are encouraged to spend time in two different laboratories (one on each campus) with different methodologies. Students will not be conducting independent research, but will actively participate in data collection and analysis at the discretion of the lab director. Students must enroll in the research practicum course for the appropriate campus.

Examinations. All students in the program will be evaluated at the following levels:

(1) First Year Evaluation: Students must have achieved a 3.0 grade point average on all core and elective courses during the first year, and have appropriate clinical skills as determined by the student's clinic supervisors. The student's ability to integrate the academic material and clinic procedures appropriate for the end of the first year will be assessed through a First Year Qualifying Exam. This examination will be a written examination to be taken at the end of the spring semester. The First Year Qualifying Examination may be repeated once following additional directed study by the student's adviser. Students must pass the First Year Evaluation in order to enroll in second year courses.

(2) Second Year Evaluation: Students must have achieved a cumulative grade point average of 3.0 on all core and elective courses, and have appropriate clinical skills as determined by the student's clinic supervisors. The student's ability to integrate the academic and clinic procedures appropriate for the end of the second year will be assessed through a Second Year Qualifying Examination. This examination will be a written examination to be taken at the end of the spring semester. The Second Year Qualifying Examination may be repeated once following additional directed study by the student's adviser. Students must pass the Second Year Evaluation in order to enroll in third year courses.

(3) Comprehensive Examination. At the end of the third year, and after Advancement to Candidacy (see below), the student will take a Comprehensive Examination, which has an integrative written component and a practical component involving clinical procedures. The Comprehensive Examination must be passed before a student can be register for the Externship.

Advancement to Candidacy. Candidates will be recommended for Advancement to Candidacy after successfully completing all course, laboratory rotation, and clinic requirements for Year 1 and Year 2 (with a minimum grade point average of 3.0), satisfactory performance on the first and second year evaluations, and approval of the doctoral project proposal. Students cannot enroll in the doctoral project course, take the comprehensive examination, or register for their externship until advanced to candidacy. The program's Executive Committee recommends students eligible for advancement to candidacy to the graduate deans of both institutions

Doctoral Project. Each student will complete an innovative doctoral project. The doctoral project can take the form of a number of different options, e.g., a research-based investigation, evidence-based position paper, critical literature review with applications to clinical problem solving, grant proposal, development of a clinical protocol based on published research findings, or other projects proposed by the student that are accepted by the committee. The project should be designed to allow an opportunity to demonstrate critical thinking on clinical issues. Each student will select a Doctoral Project Committee comprised of two Au.D. program faculty (one from each campus) and a faculty member external to the program. The chair of the committee can be from either campus. The Executive Committee will approve each student's Doctoral Project Committee. All doctoral projects will be written in a format approved by the student's Doctoral

Project Committee. The student's final written document will be approved by the student's Doctoral Project Committee. Each student will enroll in the appropriate doctoral project course depending on the campus in which their committee chair resides.

Award of the Degree. The Doctor of Audiology (Au.D.) degree will be awarded jointly by the Regents of the University of California and the Trustees of The California State University in the names of both cooperating institutions.

Financial Support

Funding for graduate students cannot be guaranteed, although every effort will be made to provide some financial support for as many students as possible, through graduate/teaching assistantships, research grants, clinical traineeships, and/or scholarships. Financial support will be awarded consistent with the policies of the two universities. Tuition and fees will be charged in accordance with the extant policies at the campus in which the student is matriculated in a given year.

Courses Acceptable on Au.D. Degree Program in the School of Speech, Language, and Hearing Sciences (AUD)

GRADUATE COURSES Audiology Courses

700. Hearing Science (3)

Prerequisite: Admission to doctoral program.

Nature of sound and applications to hearing and speech, including acoustics, structure, and function of auditory system, and perception of sound.

701. Clinical Practice I (1-3)

One unit represents three hours per week.

Prerequisites: Credit or concurrent registration in Audiology 705 and 710.

Applications of clinical procedures to patient assessment. Includes computer-based simulated cases, clinical observations, and supervised patient care involving diagnostics and hearing aid evaluations at the on-campus audiology clinic. May be repeated. (Formerly numbered Communicative Disorders 545.)

705. Diagnostic Audiology I (3)

Two lectures and two hours of activity.

Prerequisite: Admission to doctoral program.

Theoretical bases and technical experience necessary to perform basic audiologic assessment, including otoscopy, pure-tone, masking, speech, and immittance measures, testing and patient counseling. Hands on experiences with different tests and equipment. Not open to students with credit in Communicative Disorders 542.

710. Hearing Amplification (3)

Prerequisite: Admission to doctoral program.

Hearing aid components and signal processing, electroacoustic analysis, prescriptive techniques, verification procedures, hearing aid orientation, follow-up and troubleshooting. (Formerly numbered Communicative Disorders 610.)

715. Diagnostic Audiology II (3)

Two lectures and two hours of activity.

Prerequisite: Audiology 705.

Advanced procedures, including video-otoscopy, cerumen management, multiple component tympanometry, tests for 8th nerve, non-organic, and central involvement, and calibration. Principles and procedures for otoacoustic emission measurements (OAEs). Pathologies as they relate to audiologic measures. (Formerly numbered Communicative Disorders 644.)

720. Auditory Evoked Potentials (3)

Prerequisites: Audiology 700 and 705.

Theoretical and clinical aspects of auditory evoked potentials, with particular emphasis on auditory brainstem response. Electrocochleography, middle latency responses, cortical auditory evoked potentials (N1-P2), and auditory event-related potentials (MNN, P300). (Formerly numbered Communicative Disorders 647.)

721. Clinical Case Studies and Staffings I (1)

Prerequisite: Concurrent registration in Audiology 701.

Presentations and discussion of clinical cases and issues relative to clinical practice. Students' clinical experiences are discussed relative to medical and audiological assessment and management.

725. Pediatric Audiology (3)

Prerequisites: Audiology 700 and 705.

Development of normal and abnormal auditory behavior, behavioral and physiological testing of infants and children, hearing screening for pre- and school-age children, educational audiology, auditory processing disorders, counseling of patient and family, and assistive listening devices. Not open to students with credit in Communicative Disorders 648.

795. Research Practicum (3) Cr/NC

Prerequisites: Admission to doctoral program and consent of instructor.

Participation in specific faculty research activities. Research methods and objectives of a specific research laboratory. Data collection and analysis.

798. Doctoral Special Studies (Cr/NC)

Prerequisites: Admission to doctoral program and consent of instructor.

Individual study in field of specialization.

800. Instrumentation in Audiology/Hearing Science (3)

Two lectures and two hours of activity.

Prerequisites: Audiology 710 and 720.

Advanced concepts and hands-on experiences with different audiological instruments to improve diagnostic skills in behavioral and physiologic tests. Calibration techniques and instrumentation. Critical thinking, reasoning, and problem-solving skills pertaining to equipment use and testing parameters.

801. Clinical Practice II (1-3)

One unit represents three hours per week.

Prerequisites: Open to third year doctoral students and consent of instructor.

Diagnostics and hearing aid evaluations/ittings in the on-campus audiology clinic. May be repeated. Maximum credit three units. (Formerly numbered Communicative Disorders 645.)

805. Seminar in Vestibular Physiology, Assessment, and Rehabilitation (3)

Prerequisite: Open to third year doctoral students.

Advanced physiology, principles, and procedures for balance system assessment. Posturography and rotation chair measures, and dynamic visual acuity testing. Discussion and integration of information from variety of tests as a basis for diagnosis, treatment, and rehabilitation. (Formerly numbered Communicative Disorders 653.)

810. Seminar in Amplification Research and Technology (3)

Prerequisite: Audiology 710.

Amplification, advances in hearing aid analysis, selection and verification techniques, advanced hearing aid signal processing strategies, programmable and digital technology, sensory aids for special applications. (Formerly numbered Communicative Disorders 620.)

815. Communication Disorders Across Lifespan and Cultures (3)

Communication processes and disorders from infancy to elderly, including phonetics, phonology, speech, and language. Prepares audiologists to recognize a variety of communication disorders, and to learn how to apply screening instruments, in culturally sensitive ways, and to make appropriate referrals.

820. Aural Rehabilitation and Cochlear Implants (3)

Prerequisite: Admission to doctoral program.

Human context of hearing impairment and management; possibilities and limitations of hearing aids, cochlear implants, speechreading and assistive devices in minimizing disability, and psychosocial factors that determine handicap and outcome of audiological intervention. (Formerly numbered Communicative Disorders 611.)

821. Clinical Case Studies and Staffings II (1)

Prerequisite: Concurrent registration in Audiology 801 or 831.

Clinical cases and issues relative to clinical practice. Students' clinical experiences discussed relative to medical and audiological assessment and management.

825. Seminar in Professional Issues (3)

Prerequisites: Audiology 701, 710, 715, 720, 725.

Ethical and legal issues, preferred practice standards, supervision, and private practice, employment and business consideration, including hearing aid dispensing. (Formerly numbered Communicative Disorders 670.)

830. Seminar in Contemporary Topics in Audiology and Hearing Science (3)

Prerequisite: Open to third year doctoral students.

Audiology and hearing science. Reading and critiquing journal articles and data emerging from research laboratories.

831. Field Clinical Practice (3-6) Cr/NC

One unit represents four hours per week.

Prerequisites: Open to third year doctoral students and consent of instructor.

Supervised practicum in one or more approved community agencies. May be repeated. (Formerly numbered Communicative Disorders 627.)

835. Psychoacoustics (3)

Prerequisite: Admission to doctoral program.

Psychophysical concepts underlying clinical audiology. Psychoacoustic abilities of individuals with normal hearing and sensorineural hearing loss. Practical experience in conducting psychoacoustic tests. (Formerly numbered Communicative Disorders 640.)

871. Externship in Audiology (10) Cr/NC

Prerequisites: Advancement to candidacy and concurrent registration in Audiology 891.

Full-time clinical externship at approved agency. Continuation and intensification of clinical experiences with reduced amount of direct supervision culminating in ability to work independently. May be repeated. Maximum credit 30 units.

891. On-Line Integrative Clinical Seminar (2) Cr/NC

Prerequisites: Advancement to candidacy, consent of adviser, and concurrent registration in Audiology 871.

On-line discussion of clinical experiences and interesting cases. Maximum credit six units.

897. Independent Research (1-3) Cr/NC

Prerequisite: Consent of adviser.

Research in audiology or hearing science. Maximum credit three units applicable to the audiology degree.

899. Doctoral Project (3) Cr/NC

Prerequisite: Advancement to candidacy.

Individual investigation and preparation of the doctoral project for the audiology degree.
