

# **AUDIOLOGY**

## **Type of program you would like to see: Describe.**

We are proposing a clinical doctorate program in audiology that meets the 2007 certification standards of both the American Speech-Language and Hearing Association (ASHA) and the Council on Academic Accreditation. The degree would be a clinical doctorate in Audiology (AuD). In the past we offered an audiology graduate degree at the master's level. Given that the entry level degree is now a clinical doctorate, we had to place our graduate level curriculum in moratorium in 2005.

## **Evidence of the student demand for the program both locally and regionally**

There is a growing awareness of and interest in audiology as a profession. The U.S. News and World Report recently listed Audiology as one of the "Best Careers in 2009". Every year at least 10 of our undergraduate students in CSD indicate an interest in pursuing graduate level education in audiology by completing an undergraduate minor and/or by applying to clinical doctoral programs elsewhere. Currently the Speech and Hearing Sciences Department at University of Washington offers the only clinical doctoral program in audiology in Washington State. They typically receive 85 applications for the 12 positions each year.

## **Evidence for market demand for graduates of this type of program: e.g. how will it benefit the region and State?**

The U.S. Bureau of Labor Statistics Occupational Outlook Handbook, 2008-09 Edition, indicates that the employment growth for audiology is expected to increase by 10 per cent from 2006-2016. They note that job prospects will be most favorable for individuals who possess the AuD degree. The Bureau of Labor Handbook states that "because hearing loss is strongly associated with aging, rapid growth in older population groups will cause the number of people with hearing and balance impairments to increase markedly. Medical advances also are improving the survival rate of premature infants and trauma victims, who then need assessment and sometimes treatment. Greater awareness of the importance of early identification and diagnosis of hearing disorders in infants also will increase employment. A number of States require that newborns be screened for hearing loss and receive appropriate early intervention services. Employment in educational services will increase along with growth in elementary and secondary school enrollments, including enrollment of special education students." The services of audiologists will be in high demand in Washington state in general, and in a region such as Whatcom County, given the large number of older people who retire in our communities, industry-related prevention and treatment of hearing loss efforts, mandated screening and treatment of hearing disorders in infants, new treatment methods and populations requiring audiological treatment given technological advances (such as

cochlear implantation), and federally mandated assessment and treatment of children with special needs, including hearing impairment.

**Legislative action needed if any**

Legislation will be required to seek authorization to offer a clinical doctorate in audiology. This would be a request identical to Eastern Washington University’s enabling legislation. [See below.]

**REC 28B.35.215**

**Doctorate level degrees in physical therapy authorized—Review by higher education coordinating board.** *The board of trustees of Eastern Washington University may offer applied, but not research, doctorate level degrees in **physical therapy** subject to review and approval by the higher education coordinating board.*

**List new courses (estimated) needed to achieve the program goals**

Institution	Course titles
University of Washington	<ul style="list-style-type: none"> <li>• Hearing science</li> <li>• Instrumentation</li> <li>• Psychoacoustics</li> <li>• Hearing aids I</li> <li>• Hearing aids II</li> <li>• Hearing aid repair</li> <li>• Electrophysiological assessment I</li> <li>• Electrophysiological assessment II</li> <li>• Geriatric audiology</li> <li>• Balance Assessment</li> <li>• Hearing conservation</li> <li>• Medical audiology</li> <li>• Professional issues in audiology</li> <li>• Ethics</li> <li>• Otoacoustic emissions</li> <li>• Audiological rehabilitation</li> <li>• Pediatric amplification</li> <li>• Hearing development</li> <li>• Advanced amplification</li> <li>• Cochlear implants I</li> <li>• Cochlear implants II</li> <li>• Managing HI children</li> <li>• Cerumen management</li> <li>• Audiometric screening</li> <li>• Special topics</li> <li>• Counseling</li> <li>• Special topics</li> <li>• Research methods</li> <li>• Research</li> <li>• Prosem</li> <li>• Educational psychology</li> <li>• Clinical practicum series</li> <li>• Elective coursework in pediatrics, geriatrics, education, and business</li> </ul>

<b>Institution</b>	<b>Sample of possible course titles</b>
<b>Western Washington University</b>	<ul style="list-style-type: none"> <li>• Hearing science</li> <li>• Instrumentation</li> <li>• Psychoacoustics</li> <li>• Amplification I</li> <li>• Amplification II</li> <li>• Hearing aid repair I</li> <li>• Neuroanatomy</li> <li>• Electrophysiological assessment I</li> <li>• Electrophysiological assessment II</li> <li>• Hearing and Aging</li> <li>• Balance Assessment</li> <li>• Hearing conservation</li> <li>• Pharmacology</li> <li>• Professional issues in audiology</li> <li>• Ethics</li> <li>• Otoacoustic emissions</li> <li>• Adult audiological rehabilitation</li> <li>• Pediatric Aural habilitation</li> <li>• Hearing development</li> <li>• Cochlear implants I</li> <li>• Educational Audiology</li> <li>• Auditory Processing Disorders</li> <li>• Special topics</li> <li>• Counseling</li> <li>• Special topics</li> <li>• Research methods</li> <li>• Research</li> <li>• Professional seminar</li> <li>• Educational psychology</li> <li>• Clinical practicum series</li> <li>• Elective coursework in speech-language pathology, early intervention/family-centered practice, facilitating spoken language in deaf/HOH children, children with multiple disabilities, geriatrics, education, and business</li> </ul>

*What courses already exist?*

Courses currently offered: early intervention, pediatric audiology, educational audiology, hearing science, psychoacoustics, aural habilitation, auditory neurophysiology, Electrophysiological testing, aural rehabilitation, hearing conservation, amplification, instrumentation, hearing and aging. The following courses were offered as a part of the master’s program in audiology. These will be revised slightly and incorporated into the curriculum described above. The counseling course (CSD 575) is currently offered to speech-language pathology graduate students and would be open to the doctoral level audiology students.

561 ADVA NCED AUDIOLOGY I (3)  
 Prereq: CSD 371, 462 and permission of instructor. Study of basic auditory correlates and advanced diagnostic audiometric procedures.

562 ADVA NCED AUDIOLOGY II (3)  
 Prereq: CSD 561. Theory and application of advanced diagnostic audiometric procedures.

**563 SEMINAR: AURAL REHABILITATION (3)**

Prereq: CSD 463 or permission of instructor. Issues related to the hearing impaired population.

**564 ADVANCED CLINICAL PRACTICE IN AURAL REHABILITATION (2)**

Prereq: CSD 458, 459, 463, permission of instructor, and a minimum of 25 hours of documented speech-language pathology/audiology and rehabilitation observations. Supervised practice in rehabilitation of the hard of hearing. Must be completed with a grade of B or better. Repeatable to a maximum of 10 credits.

**565 PSYCHOACOUSTICS (3)**

Prereq: CSD 561 or permission of instructor. Application of standard psychophysical techniques and theory of signal detection to audiologic research.

**566 AUDITORY NEUROPHYSIOLOGY (3)**

Prereq: CSD 561 and permission of instructor. The ear as a transducer and analyzer; electrophysiological and mechanical properties of the ear.

**567 SEMINAR: HEARING CONSERVATION (3)**

Prereq: CSD 562. Noise as a public health hazard; the effects of noise on hearing; noise abatement, control and protection; federal and state noise regulations and compensation.

**568 ADVANCED CLINICAL PRACTICUM IN AUDIOLOGY (2 ea)**

Prereq: CSD 371, 462 or permission of instructor; to be taken in sequence; and a minimum of 25 hours of documented speech-language pathology/audiology and rehabilitation observations. Clinical practicum designed to advance skills in audiology. Must be completed with a grade of B or better. Repeatable to a maximum of 14 credits.

**569 ADVANCED CLINICAL PRACTICE IN AURAL REHABILITATION (2)**

Prereq: Satisfactory completion of CSD 458, 459, 463, and permission of instructor. Supervised clinical practicum. S/U grading. Offered summer only. Repeatable to 4 credits.

**570 MEDICAL AUDIOLOGY (3)**

Prereq: CSD 371, 462, 561. Pathologies of the hearing mechanism and their auditory manifestations. Discussion with physicians regarding diagnosis, referrals and report writing.

**571 HEARING AIDS I (3)**

Prereq: CSD 462 or permission of instructor. History, development and description of hearing aids and other amplification devices. Research into the electro-acoustic characteristics of hearing aids.

**572 HEARING AIDS II (3)**

Prereq: CSD 571. Evaluation procedures and fitting techniques for dispensing hearing aids and other amplification devices. Auditory training and counseling techniques covered as well as special instrumentation.

**573 SEMINAR: SPEECH ACOUSTICS (3)**

Prereq: CSD 353 or permission of instructor. In-depth study of the acoustic speech signal. Analysis of significant theories in speech production/acoustics. Application of relevant acoustic principles in the evaluation and remediation of communicative disabilities.

**574 SEMINAR: SPEECH PERCEPTION (3)**

Prereq: CSD 353, 573 or permission of instructor. Critical analysis of current issues in speech perception. Examination of the effects of communication disabilities on speech perception.

**575 COUNSELING IN COMMUNICATION DISORDERS (3)**

Prereq: graduate status. Contemporary theories and techniques of counseling individuals with communication disorders and their families.

**577 PEDIATRIC AUDIOLOGY (3)**

Prereq: CSD 371, 462, 568 and permission of instructor. Developmental milestones of auditory function, implications of childhood hearing loss and supervised testing of pediatric patients utilizing basic and advanced testing techniques.

**578 SEMINAR: ELECTROPHYSIOLOGICAL TESTING (3)**

Prereq: CSD 561, 568 or permission of instructor. Current topics and issues in specialized areas of averaged electro-encephalic audiometry and otoacoustic emissions; research trends and problems. Lab required.

**579 AGING AND THE EAR (3)**

Prereq: CSD 561, 562. Anatomical and physiological influences of aging on the auditory mechanism and how these changes influence overall auditory function and communication.

*Include impact and implications of your new curriculum for other Departments and programs (e.g., psychology for educational psychology and counseling, Biology for anatomy and physiology)*  
The curriculum will be delivered entirely by faculty within the CSD Department.

**Classroom & lab needs – do they exist now, is there sufficient availability or do we need new?**

Recently the Communication Sciences and Disorders Department (CSD) moved into new space in the Academic Instructional Center (AIC) building that was specifically designed to meet the needs of students majoring in the communication sciences and disorders. This major encompasses both speech-language pathology and audiology. As a result we have state-of-the-art teaching and research labs, seminar space, and clinic facilities for offering a doctoral program in audiology. The west wing of the AIC houses four floors of classrooms and computer labs that are available to CSD. We will need to make slight modifications to some of the clinic and office spaces to accommodate new faculty and staff.

**Equipment needs:**

The equipment budget that was associated with the AIC building allowed us to purchase most of the research, clinic, and teaching lab equipment that will be required in launching an AuD program. Our costs will be primarily in terms of startup equipment (computers and CCTV monitors/controls for new faculty and clinical educators) and materials and supplies for the teaching labs. The latter category includes items such as diagnostic tests and software, hearing aid analysis software updates, electrodes, ear tips, otoscopes, and curricular materials. Student activity fees will cover some of these costs.

**Support/staff needs**

3.5 STEF: Two clinical educators, one clinical site coordinator, .5 clinic business manager

**FTEF needed, both for your program and other service departments**

3 FTEF for three additional audiology faculty who will contribute to teaching the undergraduate and doctoral level audiology courses, supervising and directing the audiology and aural rehabilitation clinics, advising student research, and directing the audiology programs. No FTEF is needed for other service departments.

**Off-campus needs if any**

Other than establishing off-campus externship sites for the 3<sup>rd</sup> and 4<sup>th</sup> years of the program, the academic and clinical education will be conducted on campus. We will expand our ongoing clinic services to the community; these services are located in the new Academic Instruction Center.

**Projected timelines from a given start date:**

Proposed Timeline: =two years

1. Year One: .5 release time for Program Director; recruit and hire the faculty; begin curriculum development and accreditation process.
2. Year Two: While accreditation is pending recruit new students. Complete curriculum development.
3. First class enters at the end of Year Two.

**Challenges or obstacles to establishment of your proposed program**

*What are they?*

- Modification of existing space to house additional faculty and students
- New program implementation and coordination issues
  - AuD enabling legislation
  - HECB approval
  - Procurement of state support for the program
  - Timing of faculty recruitment and hiring
  - Development of curriculum and accreditation process

*What might be done to deal with them?*

- There must be clear communication and well-coordinated efforts at the department, college, and university levels. This includes timely access to the college Dean, Provost, and legislative affairs administrators.
- There must be adequate faculty release time for developing the timeline and coordinating the program implementation.

**Authors:**

- Barbara Mathers-Schmidt, Professor, CSD, Department Chair
- Rieko Darling, Associate Professor, CSD, Audiology Clinic Director
- Kimberly Peters, Associate Professor, CSD, AR Clinic Director
- Michael Seilo, Professor, CSD