

February 27, 2004

A. Lorris Betz
Interim President and
Senior Vice President for Health Sciences
203 Park
Campus

RE: Proposal to Establish Doctor of Audiology (Au.D.) Degree

Dear Interim President Betz:

At its meeting of February 23, the Graduate Council unanimously voted to approve a proposal to establish a Doctor of Audiology (Au.D.) degree within the Department of Communication Sciences and Disorders.

The proposal indicates that the Au.D. is becoming the preferred degree by students seeking academic training in audiology. In addition, new requirements established by the program's accrediting body (American Speech-Language-Hearing Association) favor establishment of the Au.D.

A copy of the proposal is attached for your approval and transmittal to the Academic Senate.

Sincerely,

David W. Chapman
Assoc. V.P. for Graduate Studies
Dean, The Graduate School

Encl.

XC: David W. Pershing, Senior Vice President for Academic Affairs
James E. Graves, Dean, College of Health
Bruce L. Smith, Chair, Dept. of Communication Sciences and Disorders
Lisa L. Hunter, Dept. of Communication Sciences and Disorders

**PROPOSAL FOR A
PROFESSIONAL DOCTOR OF
AUDIOLOGY (Au.D.) PROGRAM**

**DEPARTMENT OF
COMMUNICATION SCIENCES AND DISORDERS**

**COLLEGE OF HEALTH
UNIVERSITY OF UTAH**

February 04, 2004

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**DEPARTMENT OF COMMUNICATION DISORDERS
COLLEGE OF ALLIED HEALTH
UNIVERSITY OF UTAH**

I. The Request

The University of Utah requests approval to offer a Doctor of Audiology (Au.D.) degree effective Fall 2004. This program was approved by the Institutional Board of Trustees on [Date].

II. Program Description

a. Complete Program Description

Audiology is one of the fastest growing healthcare professions in the United States (U.S. Department of Labor, 2002), offering a diverse range of practice settings and the opportunity to positively impact the lives of children and adults with hearing loss. At least 80% of audiologists work in healthcare settings today, providing both diagnostic and rehabilitative clinical services. Drawing upon the strengths of the location of our program in the College of Health, the curriculum offers a broad range of clinical education and training. The professional doctorate (Au.D.) program is a 4-year post baccalaureate degree that is designed to meet all requirements for national accreditation and clinical certification in audiology. The program is comprised of 3 years of didactic and practical experience, followed by a year of supervised clinical practice in the form of a residency. A total of 104 credit hours are required, of which 60 are didactic, 6 are research and 34 are clinical experiences. Students are required to pass a written comprehensive exam at the end of the 2nd year and complete a collaborative research project by the end of the 3rd year prior to commencing the residency. The program also admits qualified students who already have a Master's degree in audiology. The fourth year of clinical practice will be waived for post-Master's students who already hold licensure or certification in audiology. The research requirement may also be waived for those students who have completed a Master's thesis.

b. Purpose of Degree

The purpose of the Au.D. is to educate audiologists for professional practice as specialists in the evaluation and management of individuals with hearing impairment and balance disorders. Graduating students will be qualified to enter a wide range of professional careers in private practice, clinical settings in hospitals and outpatient facilities, educational settings, and industry. The professional doctorate will replace the Master's degree as the entry-level degree for those who are pursuing clinical practice, while the M.S. and Ph.D. degrees in Audiology will remain for individuals who are pursuing careers in research and academics. As a result of expanded and more in-depth didactic knowledge and practical experience, the clinical doctoral degree will confer a higher degree of professional autonomy compared to the traditional Master's degree. Development of the Au.D. degree will allow the Department of Communication Sciences and Disorders to meet recently established accreditation standards, without using the Ph.D. degree, which is primarily a research and teaching degree in training clinicians. The professional doctorate model is based on approaches similar to those used by other health care professions including pharmacy, optometry and dentistry. The proposed program at the University of Utah is consistent with the national model, which requires four years of professional education beyond the baccalaureate degree.

Recognizing that there is a need for the clinical doctorate degree, while maintaining the integrity of the Ph.D., the two national audiology professional organizations (the American Speech-Language-Hearing Association [ASHA] and the American Academy of Audiology [AAA]) have mandated the creation of the professional doctorate and have provided guidelines for its establishment. By ASHA mandate, all graduates from the year 2007 to 2012 must have the *equivalent* of doctoral-level coursework and clinical training in order to qualify for national certification. Academic programs must meet the revised standards for accreditation as of 2007. Beginning in 2012, all graduates must have doctoral degrees to qualify for national certification. Thus, the audiology program at the University of Utah (U of U) must begin offering doctoral level instruction to students entering the program in Fall of 2005 in order to meet the revised mandated standards by the year 2007 deadline.

Expected outcomes of an Au.D. program at the U of U are that all graduating students will meet ASHA mandated requirements for entry to the practice of audiology and that the program will be responsive to higher levels of training demanded today by employers of audiologists. The expanded program is also designed to be responsive to the needs of students who wish to enter a variety of employment settings. Providing students with greater depth and breadth of clinical training as well as research experience allows them to compete for careers in audiology with more responsibility and greater personal and financial rewards. National data indicates that graduates of Au.D. programs are more likely to enter private practice independently as opposed to accepting employment under other professionals. Logically, because they can practice autonomously, private practice audiologists will be more likely to practice in smaller cities and towns, thereby increasing access to hearing healthcare services in rural areas. They have been more likely to obtain positions in academic training programs, which will increase clinical training capacity in academic programs.

c. Admission Requirements

Applications for admission to the Au.D. program will be reviewed by an admissions committee consisting of regular audiology faculty, at least one clinical audiology faculty member and at least one speech-language pathology faculty member. Admission requirements will be at least the minimum requirements of the Graduate School, and will be competitive based on the pool of applicants for any given year. The departmental deadline for applying to any of the graduate programs is February 1. A Letter of Intent (1-2 pages), undergraduate transcripts, GRE scores, 3 letters of recommendation, and a sample of scholarly writing will be required. In addition, if English is not the applicant's native language, you the Test of English as a Foreign Language (TOEFL) and Test of Spoken English (TSE) will also be required. As has been our past practice, we will weigh the entire application to determine the ability of the student to complete the program successfully. Appropriate undergraduate programs would be those found in traditional Colleges of Arts and Sciences, Education and Allied Health that include a solid foundation in the basic sciences such as biology, psychology, pre-nursing, pre-medicine, and engineering. Applications from traditionally under-represented groups are encouraged.

d. Student Advisement

Each student will be assigned an academic advisor, who must be an audiology tenure track faculty member and two additional committee members, one of whom may be a speech-language faculty member, and one of whom may be an auxiliary faculty member. The academic advisor will meet with each student at least once a semester to review academic coursework, plan future courses, plan and review clinical experiences, decide upon the research project, and fill out necessary paperwork including the Graduate School candidacy application, department program of study, and ASHA application for certification.

e. Justification for Number of Credits

A study of existing Au.D. programs (n=26) was done to determine current offerings nationally. Standards published by ASHA for content areas were also reviewed to ensure that all required areas would be included in the planned program. The study of current programs showed that the median number of total required semester credits at the graduate level is 115 credits and the range is from 81 to 142 credits. The median number of didactic credit hours is 73 while the median number of clinical credits is 36. In addition, on average 6 research credits are also required. All but one of the programs requires a research project, and many require comprehensive examinations. The Au.D. program at the University of Utah is designed to require approximately 104 semester credit hours, of which 64 are didactic, 6 are research, and 34 are clinical credits. Additionally, a preliminary written comprehensive examination will be required. The program at the University of Utah exceeds the minimum requirements established by the American Speech-Language Hearing Association, and is comparable to other programs nationally.

f. External Review and Accreditation

The program will be submitted for accreditation by the American Speech-Language Hearing Association. The current Master's degree program is accredited through the year 2004 and is scheduled for review in 2003. Accreditation is administered by the same body for both speech-language pathology and audiology in a joint process by the Council on Academic Accreditation (CAA). Thus, both programs are jointly submitted for a periodic accreditation review (every 8 years) by the Department of Communication Sciences and Disorders. The programs require similar documentation of enrollment and student performance, faculty changes, effort and activities, curriculum, compliance with outcome standards, clinical placements, evaluative procedures, etc. Combining the accreditation process reduces expenditures and time commitment for both disciplines.

In May, 2002, a consultant (Dr. Jackson Roush, Professor and Chair, Speech-Language Pathology and Audiology, University of North Carolina, Chapel Hill) assessed the potential of the University of Utah to offer a high quality doctoral level training program in Audiology. The report from Dr. Roush is contained in Appendix G. Several recommendations were made, and these have been addressed in this proposal.

Recommendation 1. *A minimum of two new full-time faculty positions should be added to the current audiology faculty.*

This recommendation has been addressed by requesting one new tenure track faculty, and one new clinical faculty member. In addition, several excellent adjunct faculty have begun providing teaching and clinical supervision to our students in the past year to prepare for the new program

inception.

Recommendation 2. *Clinical facilities must be identified elsewhere on campus or in an off-campus setting for comprehensive first and second year clinical education of Au.D. students.*

This recommendation has been addressed by the commitment of the Senior Vice President of Health Sciences to Dean Graves to secure increased clinical space for the department of Communication Disorders. This effort has moved forward and is expected to result in nearly 7,000 square feet of new space for the clinic during the summer of 2004, which will be located in Research Park.

Recommendation 3. *There is an urgent need for a one-time investment in new equipment pertinent to hearing aids and diagnostic audiology, with an annual recurring budget for equipment maintenance and periodic renewal.*

This recommendation has been addressed through equipment grants made in the past year as well as a budgetary line for equipment on an annual recurring basis.

Recommendation 4. *DCD should encourage the participation of representatives from key regional practicum sites in long-range planning.*

This recommendation has been addressed by developing an External Advisory Panel that will advise the program with regard to curriculum, practicum opportunities, student performance and community practice standards.

Recommendation 5. *The proposed curriculum should be carefully reviewed to ensure compliance with required "Knowledge and Skill Outcomes," as set forth in Standard IV, CCCA. In addition to curriculum content the review should include plans for formative and summative assessments.*

The curriculum has been designed to meet or exceed the standards of the Standard IV, CCA-A. Formative and summative assessments have been designed to meet these same outcomes as outlined on the "Knowledge and Skills Assessment" outcomes required by the new standard. These outcome standards (as shown in Appendix D) are noted in the proposed curriculum.

Recommendation 6. *Admission requirements and clinical evaluation of advanced standing students needs further elaboration and description.*

The post-Master's program has been designed so that Master's to Au.D. students will be individually assessed with regard to previous coursework. This allows each student to enter a program designed to "fill in the gaps" with new coursework and a clinical research project (if the student has not previously completed a Master's thesis). For post-Master's degree students, there will be a minimum requirement of one-year full-time residency within the Au.D. program, or an equivalent amount of part time study (i.e., 2 semesters of full-time study, or approximately 24 semester credits in didactic coursework, not including research or practicum requirements). If the returning student completed a clinical fellowship year or holds current certification or licensure, then external practicum will be waived. Formative and summative evaluations will be similar to the post-Baccalaureate students, and will be designed to identify knowledge and skill gaps that will be addressed with coursework.

7. The Ph.D. track in Audiology should be retained.

Strengthening the Ph.D. program is a goal of the department. We agree with Dr. Roush's view: "Once the Au.D. is implemented the Department should be able to accommodate several Ph.D.

students in audiology. These students, whose professional goals are distinctly different from those of the typical Au.D. student, would bring clinical experience combined with a variety of academic and research interests. Considering the number of faculty positions anticipated in the coming years, demand for such a program at U.U. should be strong. In addition to student support from faculty grants, a revitalized audiology program at U.U. would be in a good position to seek extramural funding for a doctoral leadership training grant through the U.S. Department of Education”.

In his summary statement, Dr. Roush commented: *“There is great potential for an exemplary Au.D. program at the University of Utah. I was impressed by the willingness of local and regional institutions to collaborate and I was gratified by the enthusiastic support of university administrators at all levels. I commend the University for investing the time and effort needed to consider this new degree program. With additional faculty resources, expansion of Departmental clinical facilities, purchase of new instrumentation, and attention to specific details regarding curriculum and instruction, the University of Utah would be well positioned to offer a unique and distinctive Au.D. program, consistent with the missions of a world-class university and medical center.”*

g. Projected Enrollment

We will enroll students in a 4-year full-time program for students with a baccalaureate degree and a 2-year part-time program for currently licensed audiologists with a Master’s degree. It is anticipated that an average of 6 full-time students will be admitted each year, similar to our current Master’s program. Because the duration is four years, as compared to two years for the current Master’s degree, enrollment by the end of the 4th year is projected to be 24 students. Enrollment during the first 4 years is detailed in Table I below. The total full-time graduate enrollment during the first year is projected to be 11 students, growing to 24 at the end of the first 4 years. We project that initiation of the Au.D. program will more than double current enrollment, due to the increased length, not due to increased enrollment of new students. Additional tuition revenue to offset additional expenses is covered by the increased length. Students currently enrolled in the Master’s program at the time the Au.D. is initiated may apply for transfer. This will allow uninterrupted student enrollment during the transition, and will allow recent Master’s students to attain Au.D. status with minimal disruption to their professional goals.

Table I. Projected Enrollment Timeline (including transfer students from master’s program)

	2005-06	2006-07	2007-08	2008-09
1 st Year Students	6	6	6	6
2 nd Year Students	6	6	6	6
3 rd Year Students	3	3	6	6
4 th Year Students	0	3	3	6
Total Enrollment	15	18	21	24

The pool of prospective full-time students will consist of those who would ordinarily apply for a Master’s degree in Audiology, and in addition, students who are interested in doctoral level health care professions. Students who already possess Master’s degrees will receive advanced standing in the program to account for graduate academic courses and professional experience already obtained. Surveys by the American Academy of Audiology indicate that there are a considerable number of people who are already in practice who would seek the new degree. Current projections

indicate that by 2004, over 1700 practicing audiologists will be enrolled in part time Au.D. programs that already exist (Ault, Jones, & Windmill, 1999).

h. Expansion of Existing Program

Current courses from our Master's degree program will be selectively retained in the Au.D. program, while a substantial number of required courses are new. As discussed above, the expanded coursework and clinical training is designed to meet outcome standards established by the CAA. The length of the program will increase from 2 to 4 years. Currently, following the completion of the 2 year Master's degree program, students seek employment as a clinical fellow for a minimum of 9 months full-time practice under the supervision of a certified audiologist. These positions can be obtained anywhere nationally, and they are not currently administered by the academic training program. The Au.D. program incorporates the full-time supervised clinical practice year into a 4th year full-time clinical externship, under the aegis of the academic training program. Thus, our faculty become responsible for assuring the quality of the residency experiences and assisting students in securing these experiences. One additional year of coursework, a research project, written comprehensive exams, and at least one supervised full-time clinical placement during the 4th year are the major expansions of the existing program.

Students will be expected to rotate through a series of externship sites that provide both sufficient breadth and depth of experiences in medical and educational settings. Students will be placed at a minimum of four different sites prior to their 4th year, including hospitals, schools, private practices and both pediatric and adult settings.

i. Faculty

Full-time Faculty, Department of Communication Sciences and Disorders:

Audiology Faculty:

Lisa L. Hunter, Ph.D. CCC-A, Associate Professor
Michelle L. Hicks, Ph.D. CCC-A, Assistant Professor
To be named, Ph.D. level, tenure track
Robert Wollenweber, M.A. CCC-A, Clinical Instructor
To be named, Au.D. or Ph.D. level, non-tenure track

Speech-Language Faculty:

Michael Blomgren, Ph.D. CCC-SLP, Assistant Professor
Kathy Chapman, Ph.D. CCC-SLP, Associate Professor
Janet Goldstein, M.S. CCC-SLP, Clinical Instructor
Cynthia Montana, M.S. CCC-SLP, Clinical Instructor
Mary Noyes, M.S. CCC-SLP, Clinical Instructor
Sean Redmond, Ph.D. CCC-SLP, Assistant Professor
Nelson Roy, Ph.D. CCC-SLP, Assistant Professor
Bruce Smith, Ph.D., Professor and Chair
Julie Wambaugh, Ph.D. CCC-SLP, Associate Professor
Mary Louise Willbrand, Ph.D. CCC-SLP, Professor

American Sign Language Program Faculty:

Larry Forestal, Ph.D., Assistant Professor

Auxilliary Faculty (Audiology):

Joe Arnold, M.S., CCC-A, (Veteran's Administration Medical Center)

Kim Davis, M.D. (Division of Otolaryngology, University of Utah Hospital)

John Eichwald, M.S., (Utah Department of Health)

Richard Harris, Ph.D. CCC-A (Brigham Young University)

Leland Johnson, M.D. (Division of Otolaryngology, University of Utah Hospital)

Michael Nilsson, Ph.D. (Sonic Innovations, Inc.)

Michael Page, M.S., CCC-A (Primary Children's Medical Center)

Loren Randolph, M.S., CCC-A (Veteran's Administration Medical Center)

Rex Scott, M.S., CCC-A, (Audiology Associates of Salt Lake City)

Nanette Sturgill, M.A., CCC-A, Clinical Instructor (Primary Children's Medical Center)

Clough Shelton, M.D. (Division of Otolaryngology, University of Utah Hospital)

Susan Sundstrom, M.A., CCC-A, (Veteran's Administration Medical Center)

Don Worthington, Ph.D. CCC-A (IHC Hearing and Balance Center)

As listed above, current full-time audiology faculty in the Department of Communication Sciences and Sciences and Disorders include two doctoral level tenure-track faculty members, and one full-time clinical faculty member. Faculty expertise is also available within the Department in important related areas of study such as speech and language development and disorders, American sign language, speech and hearing sciences, and genetics of communication disorders.

In order to adequately support research, academic and clinical teaching needs to establish the Au.D. program, additional faculty positions specifically in audiology will be required. The need for additional faculty results from doubling the duration of the program, adding 12 new didactic and 4 new clinical practicum courses. Based on careful analysis of the minimum needs for the program, one additional FTE regular faculty member is required to provide research, teaching, service and advising support for the expanded range of courses and experiences that will result from requiring a clinical doctoral degree for entry into the profession. One additional full-time clinical staff position at the Au.D. or Ph.D. level is required to provide teaching and support the expanded clinical supervision and placement needs. This position will be able to generate clinical revenue to help offset salary support. We are requesting less than twice the current level of faculty FTEs while anticipating more than double the current student credit hours.

j. Staff

The Department of Communication Sciences and Disorders employs three full-time staff, including an administrative assistant, an executive secretary, and a clinic receptionist and scheduler. Three part-time staff provide additional secretarial services. We are not requesting any additional secretarial or administrative overhead as a result of this program. Program admission, accreditation and oversight is combined with our speech-language pathology program and we anticipate these aspects will require similar administrative effort as currently expended. Program development will require additional faculty effort, which will be supplied by current and new faculty.

k. Library

The J. Willard Marriott Library, a member of the Association of Research Libraries, ranks 41st of the 113 largest university research libraries in North America. It is a member of the Center for Research Libraries. Its collection includes 2.5 million volumes and 23,000 periodical subscriptions, of which 13,500 are e-journals. Other electronic resources include 20,000 e-books, and 350 electronic databases. Interlibrary loan requests totaled 27,000 in 2002, and most requests can now be supplied in electronic format.

In addition to offering information resources, the libraries encourage students beginning advanced degree programs to take advantage of in-depth research consultation. The libraries also offer regularly scheduled library instruction and technology training to help students become effective library users. The Au.D. program will utilize hard copy and on-line journals in the areas of acoustics, clinical audiology and otolaryngology.

Current journal and on-line resources in the combined library holdings at the Marriott Library, Eccles Health Science libraries and Primary Children's Medical Center are sufficient for the Au.D. program. New journals will be added as necessary using the current budget that is earmarked for the Department of Communication Sciences and Disorders. Examples of the journals available from the above libraries to support the program are:

Acta Oto-Laryngologica
Advances in Oto-Rhino-Laryngology
American Annals of the Deaf
American Journal of Otology
Annals of Oto-Rhino-Laryngology
Archives of Otolaryngology-Head & Neck Surgery
Audiology
Audiology & Neuro-otology
British Journal of Audiology
Ear and Hearing
Ear Clinics International
Ear Nose and Throat Journal
International Journal of Audiology
International Journal of Pediatric Otorhinolaryngology
Journal of Deaf Studies and Education
Journal of the Acoustical Society of America
Journal of Speech, Language and Hearing Research
Journal of Speech and Hearing Disorders
Journal of Neuro-Otology
Journal of Laryngology and Otology
Laryngoscope
Otolaryngologic Clinics of North America
Otolaryngology-Head and Neck Surgery
Scandinavian Audiology
Seminars in Hearing

I. Learning Resources

The current University of Utah graduate program in Audiology is ranked in the top 40 programs nationally by U.S. News and World Report. There are 110 master's degree programs in audiology in the United States. Thus, the potential for a more prestigious program at U.of U. is excellent with the addition of the Au.D. and appropriate resources needed to support it.

The Department of Communication Sciences and Disorders currently occupies the 12th floor and part of the 13th floor of the Behavioral Sciences building (approximately 6,000 square feet). The audiology services of the University of Utah Medical Center, Primary Children's Medical Center and the Veteran's Administration Medical Center are within walking distance or shuttle service. In addition, the Department of Communication Sciences and Disorders has long standing arrangements with many other local professional sites for clinical practicum and off campus externships. The program will benefit from the expertise of adjunct faculty associated with the University of Utah Medical School, Veterans Administration Medical Centers in Salt Lake City, Utah Department of Health, as well as professionals in private practice, and other settings. These individuals support clinical education as well as providing specific lectures and demonstration in classes. A list of practicum sites with current contracts to provide clinical supervision is contained in Appendix E.

With regard to equipment acquisition, use and access, the Department of Communication Sciences and Disorders currently has clinic and research facilities that include contemporary audiology equipment and computer hardware and software. As identified in both the internal and external department Graduate Committee reviews, space is a critical issue limiting future growth of the department as a whole, including audiology. Current faculty offices, laboratory space and clinical facilities for audiology are located on the 12th floor of the Social and Behavioral Science Building (SBEH). The audiology clinic contains two sound booths, and approximately 575 square feet. Approximately 700 patient visits are supplied by the audiology Clinic annually. Currently, we have two audiology laboratories totalling approximately 550 square feet in space. There is a need for increased office, laboratory and clinical space as well as updated equipment (included in the requested budget) to support the Au.D. program. New space has been identified in Research Park, and tentative plans are being made to move the clinics to the new space in academic year 2004/2005. This will double the size of the current department space, improve parking and accessibility for patients, and will be adequate for the increased needs to support the Au.D. program as well as the speech-language pathology program.

III. Need

A. Program Necessity

The profession of audiology developed during the post World War II period due to a widespread need for hearing loss diagnosis and rehabilitation among veterans who suffered noise-related hearing loss. During the 1940's and 1950's, audiologists focused on behavioral hearing tests and rehabilitation services such as lipreading instruction. During the 1940's, the American Speech-Language Hearing Association established the bachelor's degree as the entry level degree for audiology. In 1962, ASHA raised the professional standard to the Master's degree, reflecting the increased professional demands and need for training that were placed on audiologists at that time. Early in the history of audiology, many academic leaders recognized and advocated doctoral training as necessary for adequate preparation of audiologists.

Due to technological advances and expanded scope of practice, the American Speech-Language-Hearing Association mandated in 1997 that the academic equivalent of a doctoral degree be phased in as the entry level requirement for audiologists beginning in the year 2007, with doctoral degrees required by the year 2012. This change came about with the recognition that it has become increasingly difficult to provide adequate academic preparation and clinical experience within the accepted credit limits and time constraints of Master's degree programs. A clinically competent audiologist must be prepared to work in outpatient and inpatient clinical facilities, rehabilitation centers, private practice, education and industry. The diverse nature of these work settings requires an audiologist to be a diagnostician, hearing conservationist, and a rehabilitationist. In addition to basic and advanced diagnostic testing and intervention procedures, graduate course material must provide a thorough understanding of electronics as it applies to amplification systems and cochlear implants, acoustics as it applies to industrial settings and classrooms, and the law as applied in industrial hearing conservation and the rights of those with hearing loss. Coursework must include anatomy, physiology, pharmacology, genetics and pathology of the auditory and balance mechanisms. Counseling principles and methods of non-medical rehabilitation of hearing loss are also critical. Graduate students must also have more extensive clinical training to complement these expanded academic demands. In recognition of the need for more comprehensive education and clinical experience, accredited programs in Audiology will be required to increase minimum coursework from 30 to 75 graduate semester credits (45 to 112.5 quarter credits) as well a new requirement that the training program supervise a full-time 4th year clinical externship. This effectively increases the number of supervised clinical practicum hours that students receive from the present minimum of 375 to approximately 2000 hours by the year 2007.

It must be emphasized that Audiology is a healthcare profession, and as such, the University of Utah is perfectly poised to offer world-class healthcare education and clinical training to our students, owing to our relationship with the School of Medicine, the fact that our department is in the College of Health, and the rich availability of on-campus clinical sites and the collaboration we have established with these sites. It must also be emphasized that audiology education at the University of Utah includes both a research degree at the Ph.D. level, and a professional degree, currently at the Master's degree level. This model is similar to the College of Pharmacy, which provides both Ph.D. and Doctor of Pharmacy (Pharm.D.) degrees. The Ph.D. in Audiology is analogous to the research Ph.D. offered in Pharmacy, and the Au.D. degree is analogous to the Pharm.D. degree. The rationale for the transition to the Au.D. is exactly the same as the rationale was two years ago for a transition from the baccalaureate degree in Pharmacy to the Pharm.D. Both changes were made as a result of transformations that had occurred in the profession, in the marketplace and by mandated changes in national accreditation standards necessitating that educational institutions develop programs capable of meeting current and future needs for the professions.

The University of Utah has offered graduate education for audiologists since 1956. The program has received continuous accreditation by the Council on Academic Accreditation of the American Speech-Language Hearing Association since its inception. Another Master's degree program at Utah State University, received approval in May, 2002 to establish an Au.D. program. At the same meeting, the Board of Regents was informed that the University of Utah would also be submitting a proposal in 2002-2003 academic year for a similar program upgrade. The third accredited program

in Utah, at Brigham Young University, has recently ceased their graduate program in audiology. Thus, only two audiology training programs rather than three will exist in Utah in the future. The Communication Sciences and Disorders faculty of the University of Utah includes individuals with national and international reputations who have demonstrated a serious commitment to the clinical practice of Audiology and Speech-Language Pathology. The Faculty believe strongly that the audiology program is crucial to the overall quality of the Department of Communication Sciences and Disorders, and that we should meet new accreditation standards promulgated by the profession. In order to fill state and regional needs for audiologists and to maintain our mission to educate professionals to serve the needs of individuals with hearing, speech, and language disorders, it is critical that the University of Utah program maintain an accredited audiology program that is upgraded to an Au.D.

B. Labor Market Demand

Currently there are approximately 14,000 audiologists in the United States. The 2001 Omnibus Survey by the American Speech and Hearing Association (ASHA, 2001) reported that almost 80% of audiologists work in healthcare settings (hospitals, physician's clinics, private practice, or other nonresidential health care facilities). From 1999 to 2001, audiologists reported a 74% increase in their caseload in high-technology hearing aids, supporting a trend towards increased need for knowledge in this area. They also reported a 27% increase in serving patients with cochlear implants, which require high levels of education and training by audiologists who serve this population. The age distribution of clients served by audiologists is concentrated below age 18 years (34% of caseload) and above age 65 (38% of caseload). Thus, there is a need for audiologists to receive specific education and training to serve pediatric and geriatric caseloads.

The 2002 Occupational Outlook Handbook published by the U.S. Department of Labor states that employment of audiologists is expected to grow much faster than the average for all occupations through the year 2010 because the growing population in older age groups is prone to medical conditions that result in hearing and speech problems. A number of factors contribute to this increased need for clinical audiologists, including the following:

- 1) Increased prevalence of hearing loss among the U.S. population and a concomitant increase in the use of hearing aids and other assistive listening devices
- 2) A significant aging of the overall population, with "baby boomers" reaching ages at which hearing loss becomes prevalent and impedes daily communication
- 3) An increase in newborn hearing screening programs nationwide (including Utah) coupled with an increase in the need for follow-up audiologic treatment and rehabilitation
- 4) A significant increase in the use of high technology and implantable devices to provide functional hearing to adults and children with severe to profound deafness
- 5) Increased emphasis on assessment of neurologically-related auditory processing disorders in school aged children

Hearing impairment is the third most prevalent chronic condition in the U.S. (Audiology Foundation of America, 1996). Consumers of audiology services are people with hearing loss, balance problems, and related conditions. There are an estimated 28 million people in the U.S. today who are affected by hearing loss (American Academy of Audiology, 1996). This number is expected to

increase to over 40 million people during the next 10 to 20 years as our national population continues to age. Based on a 1998 study, Popelka et al. concluded that: "Few older adults with hearing loss are currently utilizing hearing aids. Improved screening and intervention programs to identify older adults who would benefit from amplification are needed to improve hearing-related quality of life for this large segment of the population."

Similar needs exist for audiologists who can provide hearing services to children. Approximately 1.4% of the school-aged population has significant hearing loss, and need services of educational audiologists. Only 800 audiologists are currently employed in U.S. schools to serve more than 800,000 children with hearing loss (Johnson, 1999). The Educational Audiology Association estimates that 4,500 more audiologists are currently needed in educational settings alone (Johnson, 1999). The 1999 passage of Federal Legislation to support Universal Infant Hearing Screening will create an even greater need for audiologists as greater numbers of infants will be identified as needing services. Infant hearing screening is mandated in Utah, and since the birth rate in Utah is among the highest in the nation, increasing numbers of audiologists with training in pediatric diagnosis and habilitation are needed. Intervention for children who are identified with hearing loss is recommended by the American Academy of Pediatrics to begin prior to six months of age.

The U.S. Bureau of Labor Statistics has projected an overall growth rate across the U.S. of 39% for the occupational category *speech language pathologists and audiologists* between 1998 and 2008. The Western states including Nevada, Idaho, California, Arizona, New Mexico, and Colorado are projected to have much higher growth rates (50%) than the United States overall for speech pathologists and audiologists. There are currently 150 audiologists licensed to practice in Utah (Division of Occupational and professional Licensing, Utah Department of Commerce). The Mountain States within our "catchment area" (Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Wyoming) have an additional 755 licensed or registered audiologists. California has 1,033 audiologists, and is included in this analysis because there is only one Au.D. program in the State of California (San Diego State/UC San Diego). Thus, California is an important market area for Utah.

Estimated growth for audiologists was calculated by assuming that the growth rates are equivalent to speech-language pathologists, and multiplying the current total of audiology jobs by the average growth rate in the mountain West states and California (Table II). This assumption is reasonable given projected growth in the need for audiology due to increasing elderly population and infant hearing screening programs. There will be 985 projected new positions for audiologists between 1998-2008 for these states. Taking into account new positions plus attrition due to retirements, 134 annual openings are projected in these states each year. Currently, audiology training programs in these states produce only about 72 new graduates eligible for certification as audiologists each year. California will need 567 new audiologists in the 10-year period, or about 77 new audiologists per year with retirements. California master's degree programs are currently producing only 28 new audiologists per year. It is apparent that two Au.D. training programs in Utah will have more than an adequate market demand, especially if California is included in a marketing strategy. Coupled with the mandated upgrade to the equivalent of a doctoral degree for certification in Audiology by the year 2007, the projected need for audiologists places increasing demands on educational and clinical programs to include expanded academic and clinical training. At the present time, the State of Utah has one recently approved Au.D. program, and there are few

other accredited Au.D. training programs in the Pacific Northwest, Mountain States or California. The single current Au.D. program in Utah does not have the training capacity to meet the projected needs in Utah, especially for audiologists trained in medical settings.

Table II. Western States Occupational Projection 1998-2008

<http://almis.dws.state.ut.us/occ/projections>

State	1998 Employment	2008 Projected Employment	Quantity Employment Change	Average Annual Openings	Percent Employment Change
Arizona	164	246	82	11	51
California	1033	1600	567	77	55
Colorado	246	347	101	14	43
Idaho	50	82	32	4	60
Montana	57	69	12	3	29
Nevada	38	57	19	3	63
New Mexico	170	252	82	11	50
Utah*	150	225	75	9	50
Wyoming*	30	45	15	2	50
Total	1938	2923	985	134	50

Note: Data for audiologists was extrapolated from the occupational category "Speech Pathologists and Audiologists". Audiologists are 12.6% of the total for that category.

** Projections not available for these states. Current licensed audiologists were used as baseline (known data), and then average rates of neighboring states were used for the 10-year projection.*

C. Student Demand

Although published data are lacking, telephone contacts with several current Au.D. programs (USU, San Diego State, University of North Carolina-Chapel Hill, Northwestern University, University of Florida, University of Texas-Dallas) indicated that demand for Au.D. programs is strong, and that student applications have significantly increased both in number and quality for Au.D. programs compared to Master's degree programs.

A survey of Utah audiologists published in 2001 (McCormick and Jenson, 2001) reported that the median length of time that respondents had been in practice was 17 years, ranging from 2 to 35 years. Eighty-two percent of respondents worked full-time, and 73% worked in healthcare settings. The majority of respondents (54%) agreed or strongly agreed that "Utah audiologists who do not eventually obtain an Au.D. will be hurt by consumer preference and managed care initiatives". Thus, it is apparent that currently practicing audiologists in Utah will also perceive a need to upgrade their degrees to an Au.D., and some will enter training programs in the State to do so.

D. Similar Programs

At the present time, fifty-one Au.D. programs have been established and have received accreditation by the American Speech-Language Hearing Association. Most of the programs are in the East and Midwest, with few in the Mountain West or California. These programs are located at the following Universities:

Auburn University – Alabama

University of South Alabama

Arizona School of Health Sciences
 Arizona State University
 University of Arizona
 California State University-UC San Diego
 University of Colorado-Boulder (Ph.D.)
 University of Northern Colorado
 Gallaudet University – Washington, DC
 Nova Southeastern U – Florida
 University of Florida
 University of South Florida
 Rush University – Illinois
 Northern Illinois University
 Northwestern University
 Ball State University – Indiana
 Indiana University
 Purdue University/Indiana University Med Ctr
 University of Iowa
 University of Kansas/KU Med Ctr
 Wichita State University
 University of Louisville – Kentucky
 Louisiana State Univ Health Sciences Ctr
 Louisiana Tech University
 Towson University – Maryland
 University of Maryland-College Park
 Boston University (D.Sc.)
 Central Michigan University

 Wayne State University – Indiana

Western Michigan University
 University of Minnesota
 University of Southern Mississippi
 Southwest Missouri State University
 Washington University-St. Louis
 Seton Hall University – New Jersey (D.Sc.)
 University at Buffalo – SUNY
 East Carolina University
 University of North Carolina - Chapel Hill
 Northeast Ohio (Kent State/Akron)
 Ohio University
 University of Cincinnati
 University of Oklahoma Health Sciences
 Bloomsberg University
 Pennsylvania College of Optometry
 University of Pittsburgh
 University of Memphis – Tennessee
 University of Tennessee-Knoxville
 Vanderbilt University
 Texas Tech University
 University of North Texas
 University of Arizona
 University of Texas – Dallas
 Utah State University
 James Madison University
 Washington State University
 University of Wyoming (Ph.D)

E. Collaboration with and Impact on Other USHE Institutions

As discussed in the preceding sections, one other Au.D. program is currently offered in the state at USU. USU is in support of our proposal to offer an equivalent degree, consistent with the need to upgrade our currently accredited Master's degree program. A meeting was held at USU in March of 2002 to discuss our mutual proposals. Chairs and faculty of both programs agreed that the best course of action was to submit two proposals since both programs have long traditions of graduate education in audiology, and the need to transition from the Master's degree to the Au.D. is based on identical rationale. In their final proposal to the Board of Regents, the proposal from USU stated:

Collaboration with and Impact on Other USHE Institutions

USU has been and will continue to be in direct contact with University of Utah counterparts with the intent of establishing and maintaining mutual support and collaboration in development and implementation of an Au.D. program at each institution. USU acknowledges that the University of Utah is proceeding to make a similar proposal to the Board of Regents for approval of an Au.D. Program. USU is fully supportive of the development of an Au.D. program at the University of Utah (U of U) and

will assist in whatever way possible, i.e., curriculum development, resource sharing, externship site coordination, etc. USU is anxious to collaborate with U of U. As there are few emerging Au.D. programs in the Western United States, it will be in the best interests of Utah and neighbouring states to have two strong in-state Au.D. programs.”

We will collaborate with USU faculty to determine ways that the two programs can provide enhanced education and training to students in both programs. For example, USU has expertise in deaf education and educational audiology that could augment the U of U program. The U of U has collaboration with the medical school and is planning medically-related specialty courses, such as balance disorders, cochlear implants and grand rounds in audiology, that could be feasible to provide to USU students via videoconferencing Courses. Some courses could be offered via intensive summer institutes, which would also be attractive for continuing education to professionals in the field. These possibilities and others are attractive ways in which the two programs can collaborate to the benefit of both programs to reduce unnecessary duplication.

F. Benefits

Establishing the Au.D. program offers numerous benefits to the department, the university and the community. The Department will benefit as it will remain a viable, productive hearing science and audiology training program. If the Au.D. program is not approved and developed, this would result in the loss of the clinical training program in audiology with a resulting loss of clinic income, student credit hours and differential tuition to the Department and the University. It would also limit the number of audiology students seeking admission to only the USU program, which plans to admit 6 students per year. As a result, the number of practicing audiologists entering the community and region would be reduced.

G. Consistency with Institutional Mission

The mission of the University of Utah is to educate the individual and to discover, refine, and disseminate knowledge. As a major teaching and research university, the flagship institution of the Utah state system of higher education, the University of Utah strives to create an academic environment where the highest standards of scholarship and professional practice are observed and where responsibilities to students are conscientiously met. It recognizes the mutual relevance and interdependence of teaching and research as essential components of academic excellence.

In keeping with the mission statement for the University of Utah, the Au.D. program is designed to provide the highest level of academic and clinical training that is contemporary, based on a foundation of research, relevant to practice, and responsive to community needs. The intent to develop a nationally recognized Au.D. program is embodied in the mission statement for the program:

To provide nationally recognized academic and clinical training for audiologists in a program that is both intensive and extensive at the doctoral level.

IV. Program and Student Assessment

A. Program Assessment

Accreditation: The program has applied for re-accreditation by the American Speech-language Hearing Association (ASHA), and a site visit will occur in 2004. A “substantive change plan” is in the process of being submitted to ASHA for the Au.D. degree in order to allow accreditation of the new program in anticipation of University and Regents’ approval.

National Ranking: Measures that will be used to assess success of the program will include monitoring the pass rate on the national Praxis exam in audiology, monitoring national rankings, research grant funding and student involvement in publications. Within the first five years of the program, our goals are to improve our ranking into the top 25 programs in the nation, maintain program accreditation by the American Speech-Language Hearing Association, achieve a 95% pass rate by our graduates taking the Audiology Praxis exam, secure an increase in external grant funding that can be used to support students, and increase student and faculty publications as a result of the required research component of the program. In order to ensure responsiveness to and collaboration with community audiology leaders, as well as a high quality and superior educational program, a Community Advisory Panel (Appendix F) has been established to provide external advice and consultation. It is anticipated that the Panel will work closely with faculty and administration in developing the program, and continuously monitoring it once the program has been established. The Panel is composed of distinguished professionals working in private practice, medical settings and government agencies. These audiologists have a commitment to improving the future of the profession and ensuring that educational programs are of high quality. The Advisory Panel will periodically review curriculum and external clinical experiences to ensure the program incorporates knowledge and skills consistent with current best practices of the profession. The quality of the Au.D. program will be assessed in multiple ways. Accreditation of the program by ASHA will verify that the program is meeting requisite standards. Ability of students to pass the national Praxis exam in audiology will be monitored over time. University-mandated internal and external program reviews of the department will continue to occur.

B. Expected Standards of Performance

Outcome standards for audiologists that have been established by ASHA will be used to determine if students are learning the requisite knowledge and demonstrating clinical skills necessary to enter the profession. These standards are outlined in Appendix D. These outcome standards will be covered both by coursework and by practicum experiences. The standards will be used within the practicum evaluation forms filled out by internal and external clinical supervisors. These forms include evaluation of background knowledge and application of this knowledge to specific clinical skill areas using a Likert-type scale that delineates levels of expected performance.

It is expected that students will maintain a B average (3.0 on a 4.0 scale) throughout their program. If more than two “C” grades are obtained in required courses or if the GPA drops below 3.0, the student will be placed on academic probation and may be required to repeat courses that are related to specific clinical practice areas. In addition, the student will be considered “at risk” for practicum work in that same clinical area unless the course is repeated with a grade of B- or higher. Students at risk will be monitored closely to ensure that their clinical skills are practiced in the area at risk. Faculty committees will monitor progress of all students with an evaluation of academic, clinical and research performance during Spring semester of each year. An Au.D. student review form will be completed by the committee, reviewed with the student by the advisor, and a copy placed in the student’s file.

C. Student Assessment

Both summative and formative assessments will be utilized to evaluate knowledge and skills delineated by ASHA standards for certification in audiology (see Appendix D). Formative assessments will include course examinations, written assignments, laboratory experiences, and practicum supervisor evaluations. Summative assessments include the written comprehensive examination and oral examination defense, which will be part of the research project. The SAC Committee will provide ongoing evaluation of faculty teaching performance in all courses, and this information will be actively reviewed by the Audiology Program Director and the Department Chair to ensure that teaching standards are high, and that teachers are responsive to the needs of students and are committed to high quality standards. Documentation of formative assessments will be maintained by the Department. Formative assessment of students in relation to national standards is provided by the Audiology Praxis exam, a nationally standardized written examination for certification in Audiology. Students will take this exam at the end of their 4th year practicum experience.

D. Continued Quality Improvement

An Advisory Panel, made up of audiologists from diverse practice settings, has been established and has met once to provide input to the program. The panel members have expressed willingness to assist in program development and continuous quality monitoring. These professionals have all participated for many years in our Master's program by providing clinical practicum experiences. The advisory panel represents all four major training sites (University of Utah Hospital Division of Otolaryngology, Primary Children's Medical Center Audiology, Veteran's Administration Medical Center Audiology, Utah Department of Health) which will be regular rotations for students. The Advisory Panel will meet twice a year to review the program and make recommendations.

In addition, the quality of the training program will be assessed in an ongoing fashion through questionnaires to former students. One year after students have graduated, questionnaires will be sent to them and to their employers to learn what strengths and weaknesses employers note in our graduates and what skills and knowledge students might feel they were lacking in the "real world" workforce. This information will be discussed by the faculty as a whole, and will be used by the audiology faculty to modify course and practicum content in an ongoing attempt to make the program responsive to the needs of students and employers.

V. Finance

A. Budget

The budget for the program is detailed in Tables III-V. Table III provides calculations for projected Student Credit Hour (SCH) increases owing to the increased length of the program. The revenue is calculated across the first 4 years of the program based on current SCH revenue amounts per credit. Table IV includes several sections and also is designed to illustrate the "ramp-up" period of the first 4 years of the program. The first section of Table IV shows the projected enrollment across the first 4 years. The second section of Table IV shows the projected SCH revenue (taken from Table I); the projected differential tuition, based on current tuition rates multiplied by the number of students; projected new clinical revenue produced by the addition of a new clinical supervisor; then subtractions for current SCH and differential tuition revenue. Projected new revenue from differential tuition, student credit hours and clinical revenue totals approximately \$145,000 per year by the 4th year of the program. A line titled **Total New Revenue (New Minus Current Revenue)** gives the new revenue expected in this program to support new expenses. In the third section, "New Expenses", the budget for new faculty requested, new equipment and supplies

and new adjunct teaching effort is detailed. We are not requesting new support staff, travel or library materials, since the current budget is sufficient from our Master's and Ph.D. programs. There is a need for growth in faculty and staff based upon the new courses and clinical training that is required to meet the new accreditation standards, as well as to compete nationally with current Au.D. programs. Based on the required curriculum, we will need one new tenure track research/teaching position and one new clinical teaching position to cover additional required teaching and clinical supervision load. Volunteer effort by community clinicians will be maintained as in the current Master's program. Finally, adjunct teaching will provide a means to supplement the full time faculty effort for specialty courses.

By the third operational year of the program, we fully anticipate that projected new revenue will cover new expenses, if we are able to enroll an average of 6 new students per year. This is a reasonable number based on data from our current Master's degree program showing that we enrolled an average of 6 students per year through the year 2000. Table V gives the total "start-up" request across the first four years of the program, at which point the program is expected to be self-sustaining. The Department of Communication Disorders will fund 1/3 of the start-up from internal funds, the College of Health (Dean James Graves) has agreed to fund 1/3, and the Vice President of Health (Lorris Betz, now Interim President Betz) has agreed to fund 1/3 of the start-up costs.

B. Funding Sources

As outlined above, funding sources for the program include increased tuition income to the University and Department due to the additional length of the program, from 2 to 4 years. Student credit hour allocations also increase due to the higher level of coursework required by the program (Doctoral level as opposed to Master's level). Differential tuition will also be charged at the approved rate. The rationale for differential tuition is to help offset increased expenses to the program for clinical supervision, equipment and supplies. Clinical income will also increase owing to the addition of one new clinical faculty line to supervise student training at the doctoral level. Using a conservative figure of 6 new students per year entering the program, the ongoing new revenue generated by the program is estimated at \$148,000 per year. The cost of hiring two new faculty positions, one at the tenure track level and one at the clinical faculty level total approximately \$133,000 per year in salary and fringe benefits. We are requesting an equipment and supply budget of \$15,000 per year for the first three years of the program to provide a one-time infusion into the program, and \$10,000 per year thereafter. Total new expenditures budgeted equal anticipated revenue. We plan to market the program throughout the nation, but particularly in the Western states. The marketing strategy will use relatively low-cost but targeted methods, such as e-mail announcements to program directors, brochures to all undergraduate programs in speech and hearing, website enhancements, and announcements in professional publications. A development and marketing budget was provided by previous Dean John Dunn, of which \$6,000 is remaining. In summary, financial projections indicate that sufficient new income should result from a conservative estimate of 6 new students per year to offset additional needed faculty lines and equipment.

C. Reallocation

We are not seeking any internal reallocation of existing funds to support the program, other than the modest amount requested for the start-up period.

Table III. Projected New Revenue Calculation (SCH Worksheet)

Course Level	Current Credits (M.A.)	Proposed Credits (AuD)
5000	6	0
6000	20	35
7000	26	73
Total credits	52	108

Program Year	2005-06	2006-07	2007-08	2008-09
YR 1 students	6	6	6	6
6000 credits	26	26	26	26
7000 credits	0	0	0	0
YR 2 students	6	6	6	6
6000 credits	9	9	9	9
7000 credits	24	24	24	24
YR 3 students	3	3	6	6
6000 credits	0	0	0	0
7000 credits	22	22	22	22
YR 4 students	0	3	3	6
6000 credits	0	0	0	0
7000 credits	0	27	27	27
6000 Revenue²	22050	22050	22050	22050
7000 Revenue²	44100	61110	74970	91980
Total Revenue	\$66,150	\$83,160	\$97,020	\$114,030

1: Assumptions: 6 new students entering per year, 50% of current M.S. students transition to 3rd year and 4th years

2: Student credit hours for 6000 and 7000 level courses multiplied by the number of students taking courses each year; then multiplied by 6000 level = \$105, 7000 level = \$210

Table IV. Personnel, equipment and supply budget

Au.D. Budget					
Students:	2005-06	2006-07	2007-08	2008-09	ongoing
1st year AuD	6	6	6	6	6
2nd year AuD plus M.A. 2nd year	6	6	6	6	6
3rd year AuD	3	3	6	6	6
4th year AuD	0	3	3	6	6
Total Students	15	18	21	24	24
Revenue:					
SCH Revenue (See SCH worksheet)	66,150	83,160	97,020	114,030	114,030
Differential Tuition	51,780	62,136	72,492	82,848	82,848
New Clinic Revenue (produced by AuD supervisor)	25,000	25,000	25,000	25,000	25,000
Total Revenue	142,930	170,296	194,512	221,878	221,878
Current Differential Tuition	34,520	34,520	34,520	34,520	34,520
Current SCH Revenue	39,300	39,300	39,300	39,300	39,300
Total New Revenue (New Minus Current Revenue)	69,110	96,476	120,692	148,058	148,058
Expenses:					
New TT faculty (55,000, 33% fringe)	0	73,150	73,150	73,150	73,150
Temporary Adjunct Teaching	15,000	0	0	0	0
New Clinical Instructor (AuD @45,000 and 33% fringe)	59,850	59,850	59,850	59,850	59,850
Equipment/Supplies/Repairs	15,000	15,000	15,000	10,000	10,000
Total New Expenses	89,850	148,000	148,000	143,000	143,000
(deficit) vs. balance	(20,740)	(51,524)	(27,308)	5,058	5,058
Assumptions:					
Program starts accepting Au.D. students in Fall 2005					
6 new Au.D. students enroll per year					
50% of current master's students enter AuD program					
CSD Differential tuition = \$1726 per semester					

Notes:

Library: Current budget is sufficient, therefore, no additional funding is requested.

Staff: No additional support staff are requested to support the program.

Travel: Current department travel budget is sufficient, no additional travel requested.

Table V. Start-up Request for Au.D. Program

Program Year	2005	2006	2007	2008	Ongoing
Total Students	15	18	21	24	24
Total New Revenue	69,110	96,476	120,692	148,058	148,058
Total New Expenses	89,850	148,000	148,000	143,000	143,000
(deficit) vs. balance	(20,740)	(51,524.0 0)	(27,308)	5,058	5,058
Start-up Request	21,000	52,000	27,000	0	0
Total over 3 years:			100,000		

D. Impact on Existing Programs

The current Master's and Ph.D. programs in Audiology will be retained as options for students who prefer an academic training program that will prepare them for careers in research and education. We see the academic and clinical training as integrally linked and believe these students should have frequent opportunities for interaction. It has been our experience that students sometimes opt for a Ph.D. program after having more exposure to research and learning what an academic career entails from observation and discussion with faculty. Thus, we have designed the course sequence so that a student could switch from the Au.D. to the Ph.D. program without losing course credits. The Master's degree program will over time be replaced by the Au.D. program, but having the Master's option allows students who become unable to complete the entire Au.D. program to leave with a degree that will enable them to work in a related area to audiology (such as industry). Thus, while the enrollment in the Master's program will largely switch over to the Au.D. program, we would like to maintain the option until we have enough information to determine whether it should be discontinued. We expect that the Ph.D. program will benefit from the additional faculty hired for the Au.D. program, as resources will be shared across the two doctoral programs. In time, we hope that this will serve to strengthen the Ph.D. program with necessary faculty, space and equipment resources.

Appendix A

Curriculum

The curriculum for the AuD in Communication Sciences and Disorders was developed to provide students with a strong foundation for clinical practice. This curriculum includes a core of required courses which follow the guidelines recommended by ASHA and AAA for graduate education and clinical certification in Audiology. The proposed course work meets all of the requirements for the new certification standards set by the American Speech-Language Hearing Association. At the end of their second year of the program, AuD students take comprehensive examinations in the areas of diagnostics, aural rehabilitation, hearing science and amplification to gain acceptance into the third year of study.

New Courses to be Added in Next Five Years

Course Level	Course title	Credits
CMDIS 6xxx	Advanced Anat & Phys Hearing	3
CMDIS 6xxx	Physiologic Audiologic Assessment	3
CMDIS 6xxx	Audiologic Instrumentation	2
CMDIS 6xxx	Adv Aural Hab and Rehabilitation	3
CMDIS 7xxx	Advanced Seminar Amplification	3
CMDIS 7xxx	Seminar Implantable Aud Protheses	3
CMDIS 7xxx	Interdisciplinary Topics	3
CMDIS 7xxx	Research Project	6
CMDIS 7xxx	Professional Practice Aspects	2
CMDIS 7xxx	Audiology Grand Rounds	2
CMDIS 7xxx	Audiology Traineeship	Variable

Appendix B: Program Schedule

Course #	Title	Credits	Instructor
Year 1 - Fall			
CMDIS 6510	Behavioral Audiologic Assessment	3	Hunter
CMDIS 7930	Advanced Research Methods	3	Thibeault
CMDIS 6xxx	Advanced Anat & Phys Hearing	3	Hicks
CMDIS 6-7000	Elective	3	Staff
CMDIS 6720	Audiology Apprenticeship	1	Wollenweber
Total credits		13	
CMDIS credits		10	
Other credits		3	
	*Or equivalent statistics course		
Year 1 - Spring			
CMDIS 6610	Principles of Amplification	3	Hicks
CMDIS 6xxx	Physiologic Audiologic Assessment	3	Hunter
CMDIS 5340	American Deaf Community, Culture, Hist	3	Forestal
PT TH 5090	Neuroanatomy	4	Phys Therapy
CMDIS 6720	Audiology Apprenticeship	1	Wollenweber
Total credits		14	
CMDIS credits		10	
Other credits		4	
Year 1 - Summer			
CMDIS 6xxx	Audiologic Instrumentation*	2	New AuD
CMDIS 6720	Audiology Apprenticeship	2	Wollenweber
Total credits		4	
CMDIS credits		4	
Other		0	
Year 2 - Fall			
CMDIS 7850	Seminar Pediatric Audiology	3	Hunter
Ed Ps 6010	Statistics and Res Design	3	Educational Psychology*
CMDIS 7860	Balance Disorders	3	Worthington
CMDIS 7xxx	Advanced Seminar Amplification	3	Nilsson
CMDIS 6xxx	Audiology Internship	2	New AuD/Wollenweber
Total credits		14	
CMDIS credits		14	
Other credits		0	
Year 2 - Spring			
CMDIS 7050	Electrophysiologic Measures	3	Hunter
CMDIS 7xxx	Seminar Implantable Aud Prostheses	3	New PhD
CMDIS 6xxx	Adv Aural Habilitation & Rehabilitation	3	New PhD
CMDIS 6xxx	Audiology Internship	2	New AuD/Wollenweber
CMDIS 7xxx	Research Project	2	Staff
Total credits		13	
CMDIS credits		13	
Other credits		3	

***	Written Comprehensive Exam		
Year 2 - Summer			
CMDIS 7xxx	Professional Practice Aspects	2	New AuD
CMDIS 6xxx	Audiology Externship	2	New AuD/Wollenweber
Total credits		4	
CMDIS credits		4	
Otol credits		0	
Year 3 - Fall			
CMDIS 7420	Psychophysiological Mech & Acoustics	3	Hicks
CMDIS 7820	Genetics of Comm Disorders*	3	Chapman/Thibeault
CMDIS 7xxx	Audiology Grand Rounds	1	Staff
CMDIS 7720	Audiology Externship	3	New AuD
CMDIS 7xxx	Research Project	2	Staff
Total credits	* or equivalent genetics course	12	
CMDIS credits		12	
Other credits		0	
Year 3 - Spring			
Otol 7xxx	Med Aspects/Temporal Bone Anat	3	Shelton
CMDIS 7xxx	Interdisciplinary Topics in Audiology	3	Mahoney
CMDIS 7xxx	Audiology Grand Rounds	1	Staff
CMDIS 7720	Audiology Externship	3	New AuD
CMDIS 7xxx	Research Project	2	
Total credits		12	
CMDIS credits		9	
Other credits		3	
***	Oral Comprehensive Exam		
Year 3 - Summer			
CMDIS 7xxx	Audiology Traineeship	6	New AuD
Year 4 - Fall			
CMDIS 7xxx	Audiology Traineeship	6	New AuD
Year 4 - Spring			
CMDIS 7xxx	Audiology Traineeship	6	New AuD
Total credits	Overall Program	104.0	

Appendix C Faculty

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Appendix D

ASHA Standards

New Audiology Standards

(Updated 11/19/03)

The Council on Professional Standards in Speech-Language Pathology and Audiology (Standards Council) of the American Speech-Language-Hearing Association (ASHA), which was sunset in December 2000, was responsible for developing standards for clinical certification and for monitoring those standards. That is, the Standards Council developed new standards in response to changes in the scope of practice, to protect consumers, and to promote quality services. In January 2001 the Council For Clinical Certification (CFCC) was established and assumed both the standard-setting and implementation functions. After finalization of the standards, the CFCC began the development of the implementation language, which clarifies or interprets the standards.

The Standards Council developed an action plan to identify the "...academic, clinical practicum and other requirements for the acquisition of critical knowledge and skills necessary for entry-level, independent practice of audiology." As a part of that plan, ASHA commissioned the Educational Testing Service to conduct a skills validation study for the profession of audiology.

Following a review of the data provided by the skills validation study, practice-specific literature, feasibility studies and other pertinent information, the Standards Council published proposed standards for widespread peer review in October 1996.

Standards Council considered all comments submitted in response to the call. The Council proposed significant changes and distributed a revised document for widespread peer review in July 1997. The standards were modified on the basis of the second round of peer review and were adopted by the Standards Council in September 1997, to be implemented in 2007.

The 2007 Standards for the Certificate of Clinical Competence in Audiology are intended to make the scope and level of professional education in audiology consistent with the scope of practice of the profession. The standards address the significant discrepancies between the level of preparation and requirements for practice that were identified in the skills validation study.

Overview of Standards

Salient features of the new standards for entry-level practice include the following:

- A. A minimum of 75 semester credit hours of post- baccalaureate study that culminates in a master's, doctoral, or other recognized academic degree. The graduate education in audiology must be initiated and completed in a program accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) of the American Speech-Language-Hearing Association.
- B. The requirement for a doctoral degree is mandatory for persons who apply for certification after December 31, 2011.

- C. The standards do not stipulate the specific courses or practicum experiences that are required. The applicant will be required to demonstrate that the educational program granting the post-baccalaureate degree assessed the acquisition of knowledge and skills.
- D. Practicum experience that is equivalent to a minimum of 12 months of full-time, supervised experience.
- E. Skills in oral and written communication and demonstrated knowledge of ethical standards, research principles, and current professional and regulatory issues.
- F. A maintenance of certification requirement (Standard VI) that goes into effect on January 1, 2003.

Standards and Implementations for the Certificate of Clinical Competence in Audiology

NOTE: Standards I-V are effective as of January 1, 2007. Standard VI (Maintenance of Certification requirement) becomes effective on January 1, 2003.)

Applicants for Initial Certification

Individuals applying for initial certification before January 1, 2007, may be able to apply under either the 1993 or the 2007 Standards, depending on when they began their graduate program of study. Please refer to the chart below that describes the scenarios and standards under which individuals may apply for certification.

Applicant Began Graduate Program Under Which Standards (1993 or 2007)?	And Completed Program Under Which Standards (1993 or 2007)?	And Applies for Certification When?	Applicant Applies for Certification Under Which Standards (1993 or 2007)?
1. 1993	1993	Before 1/1/07	1993 Standards
2. 1993	1993	After 1/1/07	1993 Standards (through 12/31/07); then 2007 Standards, beginning 1/1/08
3. 1993	After program evaluated by CAA under 2007 Standards	Before 1/1/07	Either 1993 or 2007 Standards (through 12/31/07)
4. 1993	After program evaluated by CAA under 2007 Standards a. But completed before 1/1/07 b. But completed after 1/1/07	After 1/1/07	a. Either 1993 or 2007 Standards (through 12/31/07) b. Either 1993 or 2007 Standards (through 12/31/07)
5. 2007	Before 1/1/07	Before 1/1/07	2007 Standards
6. 2007	Before 1/1/07	After 1/1/07	2007 Standards

Note: Applicants who graduate from CAA-accredited doctoral programs and apply for certification under the 1993 standards before December 31, 2007, may request a waiver of the clinical fellowship requirement, based on the equivalent professional clinical experience they received as part of the doctoral program (see scenarios 1-4 above).

Applicants for Reinstatement

Individuals who were previously certified and who let their certification lapse must meet the 2007 standards if they wish to reinstate certification on or after January 1, 2007.

The Standards for the Certificate of Clinical Competence in Audiology are shown in bold. The implementation guidelines are shown in regular type following each related standard.

Standard I: Degree

- Applicants for certification must have a minimum of 75 semester credit hours of post-baccalaureate education culminating in a doctoral or other recognized graduate degree. The course of study must address the knowledge and skills pertinent to the field of audiology. This transitional standard will be in effect from January 1, 2007, through January 1, 2012, at which time applicants for certification must have a doctoral degree.

Implementation:

Verification of the graduate degree is required of the applicant before the certificate is awarded. Degree verification is accomplished by submitting (a) an application signed by the director of the graduate program, indicating the degree date, and (b) an official transcript showing that the degree has been awarded. Individuals educated in foreign countries must submit official transcripts and evaluations of their degrees and courses to verify equivalency.

The graduate program director must verify satisfactory achievement of the knowledge and skills requirements.

Standard II: Institution

- The graduate degree must be granted by a regionally accredited university.

Implementation:

The university must be accredited by one of the following: Commission on Higher Education, Middle States Association of Colleges and Schools; Commission on Institutions of Higher Education, New England Association of Schools and Colleges; Commission on Institutions of Higher Education, North Central Association of Colleges and Schools; Commission on Colleges, Northwest Association of Schools and Colleges; Commission on Colleges, Southern Association of Colleges and Schools; and Accrediting Commission for Senior Colleges and Universities, Western Association of Schools and Colleges.

Individuals educated in foreign countries must submit documentation that course work was completed in an institution of higher education regionally accredited or recognized by the appropriate regulatory authority for that country.

- The graduate education in audiology must be initiated and completed in a program accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) of the American Speech-Language-Hearing Association.

Implementation:

Satisfactory completion of academic course work, clinical practicum, and knowledge and skills requirements must be verified by the signature of the program director or official designee of a CAA-accredited program or a program admitted to CAA candidacy. The graduate education program in audiology must be accredited by the CAA.

Automatic Approval. If the graduate education program of study is completed in a CAA-accredited program and if the program director verifies that all knowledge and skills requirements have been met under current standards, approval of the application is automatic, in accordance with the time lines stipulated in the chart above.

Evaluation Required . The following categories of applicants must submit a completed application for certification and a completed [Knowledge and Skills Acquisition \(KASA\) form](#) for evaluation by the Council For Clinical Certification (CFCC):

- a. those who apply after the dates stipulated in the chart above
- b. those who were graduate students and who were continuously enrolled in a CAA-program that had its accreditation withdrawn during the applicant's enrollment
- c. those who satisfactorily completed graduate course work, clinical practicum, and knowledge and skills requirements in the area for which certification is sought in a program that held candidacy status for accreditation
- d. those who satisfactorily completed graduate course work, clinical practicum, and knowledge and skills requirements in the area for which certification is sought at a CAA-accredited program but (1) received a graduate degree from a program not accredited by CAA; (2) received a graduate degree in a related area; or (3) received a graduate degree from a non-U.S. institution of higher education.

Standard III: Program of Study

- Applicants for certification must complete a program of graduate study (a minimum of 75 semester credit hours) that includes academic course work and a minimum of 12 months' full-time equivalent of supervised clinical practicum sufficient in depth and breadth to achieve the knowledge and skills outcomes stipulated in Standard IV. The supervision must be provided by individuals who hold the Certificate of Clinical Competence (CCC) in the appropriate area of practice.

Implementation:

The program of study must address the knowledge and skills pertinent to the field of audiology. The applicant must maintain documentation of course work demonstrating that the requirements in this standard have been met. The minimum 75 semester credit hours may include credit earned for course work, clinical practicum, research, and/or thesis/dissertation. Verification is accomplished by submitting an official transcript indicating that the minimum credit hours have been completed.

Clinical practicum must be approved by an academic program. The applicant must maintain documentation of time spent in supervised practicum, verified by the program in accordance with Standard IV.

Students shall participate in practicum only after they have had sufficient preparation to qualify for such experience. Students must obtain a variety of clinical practicum experiences in different work settings and with different populations so that the applicant can demonstrate skills across the scope of practice in audiology. Acceptable clinical practicum experience includes clinical and administrative activities directly related to patient care. The aggregate total of clinical experiences should equal 52 work weeks. A week of clinical practicum is defined as a minimum of 35 hours per week in direct patient/client contact, consultation, record keeping, and administrative duties relevant to audiology service delivery. Time spent in clinical practicum experiences should occur throughout the graduate program.

Supervision must be sufficient to ensure the welfare of the patient and the student in accordance with the ASHA Code of Ethics. Supervision of clinical practicum must include direct observation, guidance, and feedback to permit the student to monitor, evaluate, and improve performance and to develop clinical competence. The amount of supervision must also be appropriate to the student's level of training,

education, experience, and competence. Supervisors must hold a current CCC in the appropriate area of practice. The supervised activities must be within the scope of practice of audiology to count towards certification.

Standard IV: Knowledge and Skills Outcomes

- Applicants for certification must have a foundation of prerequisite knowledge and skills.
- Applicants for certification must have acquired knowledge and developed skills in four areas: foundations of practice, prevention and identification, evaluation, and treatment.

Implementation:

The applicant shall assess results that demonstrate acquisition of knowledge and skills delineated in Standards IV-A, IV-B, IV-C, IV-D, and IV-E, respectively. This documentation must be maintained and verified by the program director or official designee and shall be made available upon request.

Standard IV-A: Prerequisite Knowledge and Skills

A1. The applicant must have prerequisite skills in oral and written or other forms of communication.

Implementation:

The applicant must demonstrate communication skills sufficient to achieve effective clinical and professional interaction with clients/patients and relevant others. For oral communication, the applicant should demonstrate speech and language skills in English, which, at a minimum, are consistent with ASHA's most current position statement on students and professionals who speak English with accents and nonstandard dialects. For written communication, the applicant must be able to write and comprehend technical reports, diagnostic and treatment reports, treatment plans, and professional correspondence.

Individuals educated in foreign countries must meet the criteria required by the International Commission of Healthcare Professions (ICHHP) in order to meet this standard.

A2. The applicant must have prerequisite skills and knowledge of life sciences, physical sciences, behavioral sciences, and mathematics.

Implementation:

The applicant must demonstrate through transcript credit (which could include course work, advanced placement, CLEP, or examination of equivalency) knowledge and skills in the areas delineated in this standard. Appropriate course work could include human anatomy and physiology, neuroanatomy and neurophysiology, genetics, physics, inorganic and organic chemistry, psychology, sociology, anthropology, and non-remedial mathematics. The intent of this standard is to require students to have a broad liberal arts and science background, in addition to knowledge of life sciences and physical sciences specifically related to communication sciences and disorders. Therefore, science courses in speech-language pathology may **not** be counted for certification purposes in both this category and the professional areas. In addition to transcript credit, applicants may be required by their graduate program to provide further evidence of meeting this requirement.

Standard IV-B: Foundations of Practice

The applicant must have knowledge of:

- B1. Professional codes of ethics and credentialing
- B2. Patient characteristics (e.g., age, demographics, cultural and linguistic diversity, medical history and status, cognitive status, and physical and sensory abilities) and how they relate to clinical services
- B3. Educational, vocational, and social and psychological effects of hearing impairment and their impact on the development of a treatment program
- B4. Anatomy and physiology, pathophysiology and embryology, and development of the auditory and vestibular systems
- B5. Normal development of speech and language
- B6. Phonologic, morphologic, syntactic, and pragmatic aspects of human communication associated with hearing impairment
- B7. Normal processes of speech and language production and perception over the life span
- B8. Normal aspects of auditory physiology and behavior over the life span
- B9. Principles, methods, and applications of psychoacoustics
- B10. Effects of chemical agents on the auditory and vestibular systems.
- B11. Instrumentation and bioelectrical hazards
- B12. Infectious/contagious diseases and universal precautions
- B13. Physical characteristics and measurement of acoustic stimuli
- B14. Physical characteristics and measurement of electric and other nonacoustic stimuli
- B15. Principles and practices of research, including experimental design, statistical methods, and application to clinical populations
- B16. Medical/surgical procedures for treatment of disorders affecting auditory and vestibular systems
- B17. Health care and educational delivery systems
- B18. Ramifications of cultural diversity on professional practice
- B19. Supervisory processes and procedures
- B20. Laws, regulations, policies, and management practices relevant to the profession of audiology
- B21. Manual communication, use of interpreters, and assistive technology

Implementation:

The applicant must demonstrate the acquisition of the knowledge referred to in this Standard .

Standard IV-C: Prevention and Identification

The applicant must be competent in the prevention and identification of auditory and vestibular disorders. At a minimum, applicants must have the knowledge and skills necessary to:

- C1. Interact effectively with patients, families, other appropriate individuals, and professionals
- C2. Prevent the onset and minimize the development of communication disorders
- C3. Identify individuals at risk for hearing impairment
- C4. Screen individuals for hearing impairment and disability/handicap using clinically appropriate and culturally sensitive screening measures
- C5. Screen individuals for speech and language impairments and other factors affecting communication function using clinically appropriate and culturally sensitive screening measures
- C6. Administer conservation programs designed to reduce the effects of noise exposure and of agents that are toxic to the auditory and vestibular systems

Implementation:

The applicant must demonstrate the acquisition of the knowledge and skills referred to in this Standard .

Standard IV-D: Evaluation

The applicant must be competent in the evaluation of individuals with suspected disorders of auditory, balance, communication, and related systems. At a minimum, applicants must have the knowledge and skills necessary to:

- D1. Interact effectively with patients, families, other appropriate individuals and professionals
- D2. Evaluate information from appropriate sources to facilitate assessment planning
- D3. Obtain a case history
- D4. Perform an otoscopic examination
- D5. Determine the need for cerumen removal
- D6. Administer clinically appropriate and culturally sensitive assessment measures
- D7. Perform audiologic assessment using physiologic, psychophysical and self-assessment measures
- D8. Perform electrodiagnostic test procedures
- D9. Perform balance system assessment and determine the need for balance rehabilitation
- D10. Perform aural rehabilitation assessment
- D11. Document evaluation procedures and results
- D12. Interpret results of the evaluation to establish type and severity of disorder
- D13. Generate recommendations and referrals resulting from the evaluation process

- D14. Provide counseling to facilitate understanding of the auditory or balance disorder
- D15. Maintain records in a manner consistent with legal and professional standards
- D16. Communicate results and recommendations orally and in writing to the patient and other appropriate individual(s)
- D17. Use instrumentation according to manufacturer's specifications and recommendations
- D18. Determine whether instrumentation is in calibration according to accepted standards

Implementation:

The applicant must demonstrate the acquisition of the knowledge and skills referred to in this Standard.

Standard IV-E: Treatment

The applicant must be competent in the treatment of individuals with auditory, balance, and related communication disorders. At a minimum, applicants must have the knowledge and skills necessary to:

- E1. Interact effectively with patients, families, other appropriate individuals, and professionals
- E2. Develop and implement treatment plan using appropriate data
- E3. Discuss prognosis and treatment options with appropriate individuals
- E4. Counsel patients, families, and other appropriate individuals
- E5. Develop culturally sensitive and age-appropriate management strategies
- E6. Collaborate with other service providers in case coordination
- E7. Perform hearing aid, assistive listening device, and sensory aid assessment
- E8. Recommend, dispense, and service prosthetic and assistive devices
- E9. Provide hearing aid, assistive listening device, and sensory aid orientation
- E10. Conduct aural rehabilitation
- E11. Monitor and summarize treatment progress and outcomes
- E12. Assess efficacy of interventions for auditory and balance disorders
- E13. Establish treatment admission and discharge criteria
- E14. Serve as an advocate for patients, families, and other appropriate individuals
- E15. Document treatment procedures and results
- E16. Maintain records in a manner consistent with legal and professional standards
- E17. Communicate results, recommendations, and progress to appropriate individual(s)
- E18. Use instrumentation according to manufacturer's specifications and recommendations

E19. Determine whether instrumentation is in calibration according to accepted standards

Implementation:

The applicant must demonstrate the acquisition of the knowledge and skills referred to in this standard.

Standard V. Assessment

Applicants for certification must demonstrate successful achievement of the knowledge and skills delineated in Standard IV by means of both formative and summative assessments.

Standard V-A: Formative Assessment

The applicant must meet the education program's requirements for demonstrating satisfactory performance through ongoing formative assessment of knowledge and skills.

Implementation:

Formative assessment yields critical information for monitoring an individual's acquisition of knowledge and skills. Therefore, to ensure that the outcomes stipulated in Standard IV-B, IV-C, IV-D, and IV-E are effectively pursued in a systematic manner, academic and clinical educators must have assessed developing knowledge and skills throughout the applicant's program of graduate study. Applicants may also be part of the process through self-assessment. Applicants and program faculties should use the ongoing assessment to help the applicant achieve requisite knowledge and skills. Thus, assessments should be followed by implementation of strategies for acquisition of knowledge and skills.

The applicant must adhere to the academic program's formative assessment process and will maintain records verifying ongoing formative assessment. The applicant shall make these records available to the Council For Clinical Certification upon its request. Documentation of formative assessment may take a variety of forms, such as checklists of skills, records of students' progress in clinical skill development, portfolios, and statements of achievement of academic and practicum course objectives, among others.

Standard V-B: Summative Assessment

The applicant must pass the national examination adopted by ASHA for purposes of certification in audiology.

Implementation:

Summative assessment is a comprehensive examination of learning outcomes at the culmination of professional preparation. Evidence of a passing score on the ASHA-approved national examination in audiology must be submitted to the ASHA National Office by the testing agency administering the examination.

Standard VI: Maintenance of Certification (effective January 1, 2003)

Demonstration of continued professional development is mandated for maintenance of the Certificate of Clinical Competence in Audiology. This standard will take effect on January 1, 2003. The renewal period will be three years. This standard will apply to all certificate holders, regardless of the date of initial certification.

Implementation:

Individuals who hold the Certificate of Clinical Competence (CCC) in Audiology must accumulate 30 contact hours of professional development over the 3-year period in order to meet this standard. At the time of payment of the annual certification fee, individuals holding the CCC in Audiology must acknowledge that they agree to meet this standard. At the conclusion of the renewal period, certified individuals will verify that they have met the requirements of the standard. Individuals will be subject to random review of their professional development activities. If renewal of certification is not accomplished within the 3-year period, certification will lapse. Re-application for certification will be required, and certification standards in effect at the time of re-application must be met.

Continued professional development may be demonstrated through one or more of the following options:

- Accumulation of 3 continuing education units (CEUs) (30 contact hours) from continuing education (CE) providers approved by the American Speech-Language-Hearing Association (ASHA). ASHA CEUs may be earned through group activities (e.g., workshops, conferences), independent study (e.g., course development, research projects, internships, attendance at educational programs offered by non-ASHA CE providers), and self-study (e.g., videotapes, audiotapes, journals); or
- Accumulation of 3 CEUs (30 contact hours) from a provider authorized by the International Association for Continuing Education and Training (IACET); or
- Accumulation of 2 semester hours (3 quarter hours) from a college or university that holds regional accreditation or accreditation from an equivalent nationally recognized or governmental accreditation authority; or
- Accumulation of 30 contact hours from employer-sponsored in-service or other continuing education activities that contribute to professional development.

Professional development is defined as any activity that relates to the science and contemporary practice of audiology, speech-language pathology, and speech/language/hearing sciences and results in the acquisition of new knowledge and skills or the enhancement of current knowledge and skills. Professional development activities should be planned in advance and based on an assessment of knowledge, skills, and competencies of the individual and/or an assessment of knowledge, skills, and competencies required for the independent practice of any area of the professions.

For the first renewal cycle beginning January 1, 2003, applications for renewal will be processed on a staggered basis, determined by initial certification dates. For individuals initially certified before January 1, 1980, professional development activities must be completed between January 1, 2003 and December 31, 2005; for individuals initially certified between January 1, 1980 and December 31, 1989, professional development activities must be completed between January 1, 2004 and December 31, 2006; and for individuals initially certified after January 1, 1990, professional development activities must be completed between January 1, 2005 and December 31, 2007. All individuals will have a three-year period to complete the process for renewal of certification.

Appendix E: List of External Practicum Sites and Supervisors with Current Contracts for Externships in Audiology

Alta View Ear, Nose and Throat

Alan Anderson

Alta View Hospital

Robert Baird

Audiology Associates

P.K. Iwamoto, Rex Scott

Utah State Health Dept., Bureau of
Communication Disorders

Cottonwood Hospital

Robert Baird

Davis County School District

Laura Dewsnup

Granite School District

Janene Radley

Hearing Zone (3 locations)

Alan Young

David Robinson

IHC Hearing and Balance Center

Don Worthington

Jordan School District

Susan Corth

Susan Hutchins-Baker

Kathy Olympia

Jordan Valley Regional Med Ctr

Pam Cronin

LDS Hospital

Mike Walker

McKay-Dee Regional Med Ctr

Steve Harward

Kurt Randall

Nebo School District

Alan Gurney

Candy Brown

Primary Children's Medical Center

Nanette Sturgill

Michael Page

Provo School District

Patty Harrington

Salt Lake Regional Med Ctr

Stephanie Peart

Salt Lake School District

Laurie Redd

University of Utah Hospital

Lisa Dahlstrom

Stacey Butler

Utah Department of Health - Hearing Speech and
Vision Services

Utah School for the Deaf & Blind

Christine Reese

Dale Lisonbee

Katie Tonkovich

Utah Valley Regional Med Ctr

Kelly Dick

Veteran's Administration Medical Center

Joe Arnold

Vera Draper

Loren Randolph

Susan Sundstrom

Weber School District

Heidi Sullivan

**Appendix F: Au.D. Program Community
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Members (listed alphabetically):**

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Appendix G. External Consultant Report

Review of Proposed Doctor of Audiology (Au.D.) Degree Program Department of Communication Disorders College of Health, University of Utah, Salt Lake City, UT

Reviewer:

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Introduction

This report is based on a site visit, April 28-30, 2002, and a draft document describing the proposed Au.D. program. The site visit included meetings with faculty from the Department of Communication Disorders (DCD) and with representatives from the local academic/professional community that included Dr. Steven Gray and Dr. Clough Shelton of the Department of Otolaryngology; Dr. Don Worthington of the IHC Hearing and Balance Center; Dr. Thomas Mahoney, Director of the Communication Disorders Program at the Utah Department of Health; Ms. Nan Newberg, Director of Audiology Services, Primary Children's Medical Center; and Ms. Susan Sundstrom, Director of Speech Pathology and Audiology Services at the Salt Lake Veteran's Administration Medical Center. I also met with several current first and second-year audiology graduate students. Everyone I met was well informed, interested in the process, and forthright in their responses to questions.

The proposal to replace the master's degree with a professional doctorate comes in response to changes in certification and accreditation standards set forth by the American Speech-Language-Hearing Association (ASHA) and the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA). In 1997, the Council on Professional Standards of ASHA finalized new standards for obtaining the Certificate of Clinical Competence in Audiology (CCCA). Beginning in 2007, applicants for the CCCA must complete a minimum of 75 semester credit hours of post-baccalaureate study culminating in a doctoral or equivalent academic degree. On January 1, 2012, a doctoral degree will be required for those who apply for clinical certification in audiology (audiologists already licensed/certified will not be required to earn a doctoral degree). Although the specific degree designator is unspecified, the Au.D. is widely recognized as the preferred credential for students seeking a career in clinical practice. This change is the culmination of several years of investigation that began with a skills validation study and ended with extensive peer review. Audiology programs not offering a doctoral degree by 2012 will no longer qualify for accreditation; however, the transition will occur earlier since

there will be little demand for master's programs as the deadline approaches and as new Au.D. programs become available.

Strengths of the Proposed Program

There is excellent potential for a strong and mutually beneficial collaborative relationship with the University of Utah Medical Center and Department of Otolaryngology. The university hospital serves a large and diverse patient population. The University Hospital and Primary Children's Medical Centers together employ nine audiologists qualified to serve as clinical supervisors. There is great potential for collaboration in teaching and research. Dr. Clough Shelton, a nationally recognized otoneurologist, expressed strong interest in supporting the development of a first-rate academically oriented audiology program. Furthermore, he has expressed willingness to collaborate in both research and clinical endeavors. The recent development of a DCD-based intervention program for children with cochlear implants is a good example of a mutually beneficial clinical program. Collaborative faculty research projects currently planned or underway include submission of an NIH application in the area of otitis media, a doctoral thesis in cochlear implants, a current NIH grant in cleft palate directed by Dr. Kathy Chapman, and several projects related to voice disorders under the direction of Drs. Steven Gray, Nelson Roy and Susan Thibeault. Dr. Gray, an otolaryngologist and clinical researcher, noted the importance of audiology at UU goes beyond the new degree program per se, and includes the need for a strong academic base relevant to the advancement of clinical research in hearing loss.

The Department has recently added an outstanding new faculty member in audiology with experience in research and clinical practice.

Dr. Lisa Hunter, who joined the faculty in January, 2002, brings expertise in research and clinical teaching. Although she has not previously been involved in audiology graduate education she has quickly identified the issues critical to a successful degree program. Moreover, Dr. Hunter has already forged supportive relationships with several key individuals on campus and in the region. Her eight-year history as a faculty member in Otolaryngology at the University of Minnesota, with expertise in pediatric audiology and otitis media, brings new opportunities for collaboration with the Department of Otolaryngology and with other centers including University Hospital, Primary Children's and the VA Medical Center.

In addition to the collaborators noted above there are several outstanding researchers on campus and two audiology faculty at Brigham Young University who have expressed willingness to assist with the Au.D. program.

Rick Rabbit, Ph.D., Associate Professor of Bioengineering and Neuroscience Program. Dr. Rabbit's work focuses on mechanisms of hearing and balance in vertebrates, and on electrophysiology and brain mapping studies. His interests are relevant to the Au.D. program; he has reportedly expressed interest in providing lectures within inter-disciplinary courses.

Tom Parks, Ph.D., George and Lorna Wilder Professor of Neuroscience. Dr. Park's main interest is in developmental neurobiology with a current focus on developmental changes in

structure and function of auditory neurons. His interests are relevant to the Au.D. program, he has reportedly expressed interest in providing lectures within inter-disciplinary courses.

David McPherson, Ph.D. and Richard Harris, Ph.D., Department of Communication Disorders, Brigham Young University, are also valuable resources. Dr. McPherson has expressed interest in teaching for the CDC. His research interests are in electrophysiology of the human auditory system. Dr. Harris' areas of expertise are hearing aids and hearing science, both of which would be valuable to the Au.D. curriculum.

The facilities of the Behavioral Sciences Building are suitable for clinical teaching and laboratory experiences in conjunction with academic coursework.

Although there is a need for new instrumentation, dedicated space is available for clinical teaching activities in the Behavioral Sciences Building. Also, the DCD has convenient access to a well-equipped lecture hall and various sized classrooms offering up-to-date classroom technology and web-based instruction. Unfortunately, the Behavioral Science Building is not well suited for clinical service. Faculty, students, and community professionals have all emphasized the need for new clinical space. Additionally, there is inadequate space for students to store needed materials and to work at desks or carrels, as detailed in the most recent external review.

The campus and SLC region has a variety of excellent practicum sites potentially available to Au.D. students in the second, third, and fourth years.

University Hospital
Primary Children's Medical Center
Veteran's Administration Medical Center
Utah Department of Health
IHC Hearing and Balance Center
Jordan Schools
Salt Lake Schools
Utah School for the Deaf
Salt Lake Regional Hospital
Miscellaneous private facilities in Salt Lake area
Miscellaneous private facilities in Provo area

It is important to emphasize that all of the first year students, and some of the second year students will require placement in the department's clinical facility. All of the 3rd year students, and some of the fourth year students will be placed in the above sites. Thus, at any one time, if the program admits 6-8 students per year, all of the 3rd year students and a few 2nd and 4th year students will have space to accommodate their needs in the Salt Lake and Provo area without the need to travel to distant sites. Some 4th year students will need to find full-time placements outside the immediate area, but this is a common scenario among Au.D. programs and one that is viewed favorably by many students. There are few if any universities in the mountain states region with stronger or more diverse placements on campus and in their surrounding areas.

The proposed program has the enthusiastic support of University administrators and SLP faculty.

Dr. John Dunn, Dean of the College of Health Sciences, understands the issues relevant to graduate education in audiology and appears fully committed to building an excellent program. The Chair of CDC, Dr. Mary Louise Willbrand, is also strongly committed to preserving audiology within the Department and has given a considerable amount of time, energy, and resources to that end. In my meeting with speech pathology faculty I sensed a strong desire to retain audiology within the Department and to develop a program of excellence. The new CDC chair, Dr. Bruce Smith, was not on campus during my visit, but he has reportedly been briefed on the Au.D. proposal by Drs. Dunn and Willbrand.

Concerns

Faculty resources are insufficient.

Graduate education in audiology is time consuming and labor intensive. The breadth of topic areas now within the audiology scope of practice requires a relatively large and diverse faculty with complementary areas of expertise. Furthermore, the UU plan calls for scholarly research activities beyond those required of the clinical program including the possibility of a Ph.D. or joint Au.D. / Ph.D. program. Although the projected enrollment of 6-8 Au.D. students per year is modest, faculty resources are clearly insufficient for a program capable of achieving the goals set forth by Dr. Hunter and colleagues.

Department clinical facilities in the Behavioral Sciences Building are poorly suited for clinical services.

As noted above, departmental facilities are well suited for teaching labs and clinical simulations but are inadequate and inappropriate for student practicum and delivery of clinical services to the public. The amount of space is severely limited, in need of repairs, and poorly configured for clinical use. These issues were detailed by previous site visitors and this reviewer fully agrees with their assessment and recommendations regarding the needs of the audiology program. The Department-based clinical facilities are not unlike many that were created in the 1970's as graduate programs in speech pathology and audiology were established. But contemporary audiology education requires facilities that can serve as a model for delivery of comprehensive clinical services. Graduate students in an institution of UU's caliber expect facilities that are not only well equipped but functional and well suited for clinical practice. Not surprisingly, current students expressed disappointment in clinical opportunities available through the DCD. The Au.D. program, if approved, would have 12-16 students total requiring local/regional practicum opportunities. The first two semesters (at least) require a clinical setting geared specifically to the educational needs of entry-level students. It is difficult, if not impossible, to provide these educational experiences without clinical facilities designed by and under the administrative control of Departmental faculty and staff.

Other Considerations

Adequacy of Proposed Curriculum

The proposed curriculum is comprehensive and covers most of the coursework required by the new ASHA/CAA accreditation standards. There are, however, some areas that need careful examination to ensure coverage of all required content areas. Also, there does not appear to be a specific plan for assessing student performance. Formative and summative evaluations are required by the new standards for graduate students beginning in the fall semester, 2003. If the Au.D. program is approved it will need to develop appropriate instruments (or adapt existing instruments) for compliance with the new standards.

Adequacy of Current Faculty

As noted above, faculty resources are insufficient. Two tenure track faculty (Alvord and Hunter) and one clinical faculty member (Wollenwebber) are insufficient even for the current master's program. Comments from students and area professionals were mixed. Students were uniformly positive in their assessment of Dr. Hunter noting that she brings clinical experience, skillful classroom teaching, and a supportive attitude. Students described Mr. Wollenwebber as an excellent clinician, dedicated to students and patients. But they reported that he is challenged by inadequacy of departmental clinical facilities and lack of support staff to cover even the modest number of patients currently seen there. Dr. Alvord was described by students as a considerate person; however, concerns were noted regarding lack of preparation, questionable expertise in some areas of teaching, lack of enthusiasm regarding student research interests, and competing priorities related to off-campus clinical practice. They noted, however, that when Dr. Alvord was available for clinical instruction he was perceived as an effective clinician and practicum supervisor.

Representatives from the campus and local professional community were candid in their assessment of UU audiology faculty noting that several outstanding individuals had been associated with the program. But it was noted that in recent years faculty availability and expertise had dwindled to a point where the quality and reputation of the program were in serious question. Moreover, prior to Dr. Hunter's arrival there was apparently little interaction between UU faculty and the academic/professional community. Consequently, several of the local clinical programs developed cooperative relationships with other universities. Although these outside relationships have been positive, the program representatives I met conveyed a strong desire to see the University succeed in its efforts to rebuild an outstanding audiology program.

Need for the Proposed Program

It is difficult to predict long-term demand for audiologists, particularly in view of future changes in certification standards. Recent reports in the literature predict both an undersupply and oversupply of audiologists. The situation in Utah is somewhat unique, since most of the new Au.D. programs are in the eastern U.S. Utah State University has reportedly been authorized to establish a new Au.D. program; however, the Brigham Young audiology program has been discontinued. All things considered, the need for a strong academically oriented and medically based audiology program in the mountain states region appears strong.

Student Demand

Across the U.S. some Au.D. program directors have reported a drop in applications to Au.D. programs in the past 1-2 years; however, this has not been our experience in North Carolina. The new Au.D. program at UNC Chapel Hill, scheduled to begin in fall, 2002, received approximately 70 applications for 10 openings. This is a larger number of applications than we ever received for our M.S. audiology program (which was discontinued this year). Moreover, the quality of the applications was very high. Most of the Au.D. programs in the U.S. are anticipating relatively small enrollments ranging from 6-12 students per year. At this time there are few Au.D. programs in mountain states and only one proposed in California (San Diego State University). Assuming the DCD audiology program can build a strong reputation of excellence, these facts, combined with the popularity of Salt Lake City, bode well for student demand.

Master's-to-Doctoral Degree Program

Little detail was provided regarding the curriculum and program of instruction for experienced (master's-level) professionals who wish to pursue the Au.D. through UU. The projected demand seems modest considering the number of master's-level audiologists in the state. Although the University will have more freedom in curriculum design (since these individuals already hold licensure/certification) additional planning is needed for this aspect of the program.

Continuation of the Ph.D. in Audiology

Until the Au.D. is firmly established priority must be given to the clinical (Au.D.) program. There is, however, an urgent need to prepare researchers and educators for careers in academia. Several professional organizations have raised serious concerns regarding the anticipated shortage of Ph.D.s to fill academic positions in the next 5-10 years. Ph.D. and Au.D. programs, drawing on the many resources of the University and academic community, could be complementary and mutually beneficial. Although only a few Ph.D. students could be accommodated, retaining the Ph.D. track would help recruit and retain top faculty while advancing the scientific missions of the Department and College of Health Sciences. Furthermore, because most Ph.D. students are already licensed and certified audiologists they can assist with teaching and clinical supervision. Once the Au.D. is implemented, U.U. would be ideally suited to offer a combined Au.D./Ph.D. for those students who wish to combine clinical education with a more traditional program of research.

Recommendations

1. A minimum of two new full-time faculty positions should be added to the current DCD audiology faculty.

The best course of action, in my opinion, would be to pursue one tenure-track Ph.D. position at the level of associate or full professor. This person could help build the scholarly research base and engage in collaboration with other investigators on campus. The other new faculty position

would logically be a full-time faculty member with an Au.D. (or PhD with clinical experience), capable of providing expertise in clinical teaching and clinical program development.

In addition to the establishment of new positions the University should evaluate current faculty to determine if they are optimally deployed with regard to expertise and departmental needs. Given the many challenges of developing a first-rate audiology program, it is imperative that each faculty member contribute fully to the educational and scholarly missions of the program.

2. Clinical facilities must be identified elsewhere on campus or in an off-campus setting for comprehensive first and second year clinical education of Au.D. students.

This is imperative for clinical education. Although there are several clinical programs on campus, they require students to arrive with basic proficiencies. Furthermore, these facilities can accommodate only a few students at a time. Considering the potential for income from hearing aid dispensing, a self-supportive program should be possible, especially if space can be provided in a setting that allows shared overhead.

3. There is an urgent need for a one-time investment in new equipment pertinent to hearing aids and diagnostic audiology, with an annual recurring budget for equipment maintenance and periodic renewal.

Appropriate and up-to-date instrumentation is essential not only for delivery of clinical services but for laboratory instruction and clinical simulations. New equipment is especially needed for hearing aid selection/fitting/analysis and for diagnostic audiology procedures.

4. DCD should encourage the participation of representatives from key regional practicum sites in long-range planning.

An Au.D. Advisory Board, as proposed in the draft document, is a good idea. Local professionals expressed a desire to see a nationally ranked audiology program and they appear willing to assist in this effort. But they want to be convinced that the program is committed to excellence. The Advisory Board could be effective in rebuilding loyalty to the Department and to assist with reclaiming practicum opportunities now being occupied by students from other universities. The Board could also strengthen relationships needed to gain access to patient populations for clinical research.

5. The proposed curriculum should be carefully reviewed to ensure compliance with required "Knowledge and Skill Outcomes," as set forth in Standard IV, CCCA.

In addition to curriculum content the review should include plans for formative and summative assessments.

6. Admission requirements and clinical evaluation of advanced standing students needs further elaboration and description.

There is need for clarification regarding the minimum number of credit hours required for advanced standing (master's-to-doctoral) Au.D. students and how decisions will be made regarding admission and programs of study. It may be advisable to defer this component until the bachelor's entry-level program is fully implemented.

7. The Ph.D. track in Audiology should be retained.

Once the Au.D. is implemented the Department should be able to accommodate several Ph.D. students in audiology. These students, whose professional goals are distinctly different from those of the typical Au.D. student, would bring clinical experience combined with a variety of academic and research interests. Considering the number of faculty positions anticipated in the coming years, demand for such a program at U.U. should be strong. In addition to student support from faculty grants, a revitalized audiology program at U.U. would be in a good position to seek extramural funding for a doctoral leadership training grant through the U.S. Department of Education.

Final Comment

There is great potential for an exemplary Au.D. program at the University of Utah. I was impressed by the willingness of local and regional institutions to collaborate and I was gratified by the enthusiastic support of university administrators at all levels. I commend the University for investing the time and effort needed to consider this new degree program. With additional faculty resources, expansion of Departmental clinical facilities, purchase of new instrumentation, and attention to specific details regarding curriculum and instruction, the University of Utah would be well positioned to offer a unique and distinctive Au.D. program, consistent with the missions of a world-class university and medical center.

Respectfully Submitted,

Jackson Roush, Ph.D.
June 25, 2002

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9.2.2. Signature Page to Accompany Proposals Requiring Board Approval. This signature page, with all appropriate signatures included, should be sent to the Commissioner's Office and kept on file at the proposing institution.

Institution Submitting Proposal: **University of Utah**

College, School or Division in Which Program Will Be Located: **College of Health**

Department(s) or Area(s) in Which Program Will Be Located: **Communication Sciences and Disorders**

Program Title: **Doctor of Audiology Program**

Recommended Classification of Instructional Programs (CIP) Code: ____ . ____ _

Area(s) of Emphasis or Academic Specialty: **Audiology**

Certificate, Diploma and/or Degree(s) to be Awarded: **Au.D. (Doctor of Audiology)**

Proposed Beginning Date: **August, 2005 (Fall Semester)**

Institutional Signatures (as appropriate):

Department Chair	Dean, College of Health
Applied Technology Director	Graduate School Dean
Chief Academic Officer	President
Date	