ASLP 6690: Hearing Aids I
Department of Audiology and Speech-Language Pathology
University of North Texas
Spring, 2020

Instructor: Sharon Miller, Ph.D., CCC-A 
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Office: SPHS 214 
Office telephone: (940)-369-7385
Office Hours: By appointment
Class Schedule: Tuesdays, 2:00-4:50 PM
Location: PHYS 311
Course credits: 3 credits
Teaching Assistant: Avery Creech (averyhutcheson@my.unt.edu)

Lecture Materials and Required Readings

All of my Power Point lecture slides, handouts, and required readings will be posted online to the Canvas course site for students to print before each class meeting.

Required textbook
Dillon, H. Hearing Aids. Thieme: New York, USA.

Course Description:
This beginning course in amplification will cover topics related to hearing aid components and styles, earmold styles and acoustics, electroacoustic characteristics, compression, selection and fitting of hearing aids, and verification and validation of hearing aids. Content will be presented and learned through lecture, labs, exams, individual presentations, and assignments.

Student Learning Outcomes

Knowledge and Skills
Upon completion of this course, students will be able to do the following:

- Describe basic amplification technology
- Measure hearing aid test box performance of hearing aids and compare results to published specifications
- Measure hearing aid performance in the real ear
- Identify and describe candidates for amplification benefit
- Use prescriptive targets to fit hearing aid gain and compression characteristics

Research
Upon completion of the course, student will be able to:

- Obtain extensive knowledge on different hearing aid manufacturers and present to a professional audience

Collaborative Learning and Oral Skills
Upon completion of the course, students will be able to:

- Engage in a collaborative problem solving learning environment.
- Work with other students to complete laboratory assignments on different hearing aid topics.
Course Requirements and Grading:
1. Attendance is required for all class sessions.
2. Exams (2) at 20% 40%
3. Lab assignments (5) at 8% 40%
4. Final exam 20%

Grading:
Grades awarded in accordance with the University of North Texas Policy on grading. These are the standards for grades:
A  Achievement that is outstanding relative to the level necessary to meet course requirements.
B  Achievement that is significantly above the level necessary to meet course requirements.
C  Achievement that meets the course requirements in every respect.
D  Achievement that is worthy of credit even though it fails to meet fully the course requirements.
S  Achievement that is satisfactory, which is equivalent to a C- or better.
F/N Represents failure (or no credit) and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an I (see also I). Academic dishonesty in any portion of the academic work for a course shall be grounds for awarding a grade of F or N for the entire course.
I (Incomplete) Assigned at the discretion of the instructor when, due to extraordinary circumstances (e.g., hospitalization), a student is prevented from completing the work of the course on time. Requires a written agreement between instructor and student.

Policy on Incompletes: All writing assignments, exams, and presentations must be completed during the Summer semester. A grade of “I” will not automatically be given to students who cannot hand in the assignments on the due dates. Grades of “I” will only be given to students with specific health problems or emergencies. Each student must talk to the instructor in order to be considered for a grade of “I.” If a student and I agree that she or he has a reasonable request for the receipt of a grade of “I,” then the student must complete a written contract with me, stipulating the date that the incomplete will be finished.

Course Requirement Descriptions

Exams (40%)
There will be two in-class exams, each worth 20% of the final grade. Questions will primarily be in the short answer, graph interpretation, and multiple choice format. Exams will be based on my lectures, lab assignments, and assigned readings.

Laboratory Assignments (40%)
There will be 5 laboratory assignments. You will have 2 weeks to complete each of the lab assignments. Labs will be introduced in lecture and students are to complete the labs outside of regular class time.

Final Exam (20%)
There will be 1 take home final exam. The exam will be assigned April 28, 2020 and due by May 5, 2020 (date of assigned final exam).
# Tentative Course Schedule

(Topics and dates subject to change at instructor’s discretion)

<table>
<thead>
<tr>
<th>Date</th>
<th>Topics</th>
<th>Required Reading(s)/Assignment(s)</th>
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<tbody>
<tr>
<td>Jan 14</td>
<td>Syllabus Overview</td>
<td>Reading(s):</td>
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<tr>
<td></td>
<td>Introduction to Course</td>
<td>• Dillon: Ch. 1, 2</td>
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<td></td>
<td>Hearing Aid Styles and Components</td>
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<td>Jan 21</td>
<td>Hearing aid systems</td>
<td>Reading(s):</td>
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<tr>
<td></td>
<td>Candidacy</td>
<td>• Dillon: Ch. 3, 9</td>
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<td></td>
<td><strong>Lab 1: Introduction to Test Box Workbook:</strong></td>
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<tr>
<td></td>
<td>• Ch. 1 (skip pgs. 6-8)</td>
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<td></td>
<td>• Ch. 2: through pg. 15</td>
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<tr>
<td>Jan 28</td>
<td>ANSI standards for test box measures</td>
<td>Reading(s):</td>
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<td></td>
<td>Electroacoustic performance</td>
<td>• Dillon: Ch. 4</td>
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<td></td>
<td><strong>Lab 2: Test Box Workbook</strong></td>
<td>• Frye. 2000</td>
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<td></td>
<td>• Ch. 2: pgs. 16-21</td>
<td>• ANSI Handouts</td>
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<td>Feb 4</td>
<td>Earmold acoustics and modifications</td>
<td>Reading(s):</td>
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<td>• Dillon: Ch. 5</td>
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<td>• Due: Lab 1</td>
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<td>Feb 11</td>
<td><strong>Exam 1</strong></td>
<td>Reading(s):</td>
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<td>Feb 18</td>
<td>Compression</td>
<td>Reading(s):</td>
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<td>• Dillon: Ch. 6</td>
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<td>• Starkey Compression Handbook</td>
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<td>Feb 25</td>
<td>Real Ear Measures</td>
<td>Reading(s):</td>
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<td></td>
<td><strong>Lab 3: Real Ear Measures</strong></td>
<td>• Dillon: Ch. 4</td>
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<td></td>
<td>• Introduction to Probe Mic Workbook</td>
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<td></td>
<td>• Read Probe Mic Workbook: pages 1-16</td>
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<td></td>
<td>• Probe Microphone Measurements assignment</td>
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<td>Mar 3</td>
<td>Prescribing hearing aid performance</td>
<td>Reading(s):</td>
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<td></td>
<td><strong>Lab 4: Using prescriptions and real ear measures to match target</strong></td>
<td>• Dillon: Ch. 10</td>
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<td></td>
<td>• Test box Workbook: Ch. 3, 5</td>
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<td></td>
<td>• Probe mic workbook: Ch. 7</td>
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<td>Mar 10</td>
<td><strong>NO CLASS SPRING BREAK</strong></td>
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<td>Mar 17</td>
<td>Selecting and adjusting hearing aids</td>
<td>Reading(s):</td>
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<td>• Dillon: Ch. 11</td>
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<td>Mar 24</td>
<td><strong>Exam 2</strong></td>
<td>Due: Lab 3</td>
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<td>Mar 31</td>
<td>Verification Recorded Lecture</td>
<td>Reading(s):</td>
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<td><strong>Lab 5: Open fit verification</strong></td>
<td>• Dillon: Ch. 11</td>
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<td>• Probe mic workbook: Ch. 8</td>
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<td>April 7</td>
<td>Verification, contd.</td>
<td>Reading(s):</td>
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<td>• Dillon: Ch. 11</td>
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<tr>
<td>Date</td>
<td>Topic</td>
<td>Readings</td>
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<tr>
<td>April 14</td>
<td>Behavioral measures and fine tuning</td>
<td>• Dillon: Ch. 12</td>
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<td>April 21</td>
<td>Validation and Outcome Measures</td>
<td>• Dillon: Ch. 14</td>
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<td>Due: Lab 5</td>
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<td>April 28</td>
<td>Counseling</td>
<td>• Dillon: Ch. 13</td>
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<td></td>
<td>Legal/ethical issues</td>
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<td>Catch-up and review</td>
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<td>May 5</td>
<td>FINAL EXAM, 1:30-3:30 PM</td>
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<td>Final Exam Assigned</td>
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**ASHA STANDARDS:**

This course provides students with knowledge and an introduction to clinical skills in the area of amplification. These objectives partially fulfill the American Speech-Language-Hearing Association’s new audiology standards (2007) in the following ways:

The student will have knowledge of:

- **IV-B1.** Professional codes of ethics and credentialing
- **IV-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 clinical service
- **IV-B11.** Instrumentation and bioelectrical hazards
- **IV-B12.** Infections/contagious diseases and universal precautions
- **IV- B13.** Physical characteristics and measurement of acoustics stimuli
- **IV-B14.** Physical characteristics and measurement of electric and other nonacoustic stimuli
- **IV- B17.** health care and educational delivery systems
- **IV-B18.** Ramifications of cultural diversity on professional practice
- **IV- B20.** Laws, regulations, policies, and management practices relevant to the profession of audiology
- **IV-B21.** manual communication, use of interpreters, and assistive technology

The student will demonstrate the knowledge and skills necessary to:

- **IV-C1.** Interact effectively with patients, families, other appropriate individuals and professionals
- **IV-C2.** Prevent the onset and minimize the development of communication disorders
- **IV-D1.** Interact effectively with patients, families, other appropriate individuals and professions
- **IV-D2.** Evaluation information from appropriate sources to facilitate assessment planning
- **IV-D3.** obtain a case history
- **IV-D4.** Perform an otoscopic examination
- **IV-D5.** Determine the need for cerumen removal
- **IV-D6.** Administer clinically appropriate and culturally sensitive assessment measures
- **IV-D8.** Perform electrodiagnostic test procedures
- **IV-D10.** Perform aural rehabilitation assessment
- **IV-D11.** Document evaluation procedures and results
- **IV-D14.** Provide counseling to facilitate understanding of the auditory disorder
- **IV-D15.** Maintain records in a manner consistent with legal and professional standards
- **IV-D16.** Communicate results and recommendations orally and in writing to the patient and other appropriate individuals
- **IV-D17.** Use instrumentation according to manufacturer’s specifications and recommendations
- **IV-D18.** Determine whether instrumentation is in calibration according to accepted standards
- **IV-E1.** Interact effectively with patients, families, other appropriate individuals and professionals
- **IV-E2.** Develop and implement treatment plan using appropriate data
- **IV-E3.** Discuss prognosis and treatment options with appropriate individuals
- **IV-E4.** Counsel patients, families, and other appropriate individuals
- **IV-E5.** Develop culturally sensitive and age-appropriate management strategies
IV-E6. Collaborate with other service providers in case coordination
IV-E8. Recommend, dispense and service prosthetic and assistive devices
IV-E9. Provide hearing aid, assistive listening device, and sensory aid orientation
IV-E10. Conduct aural rehabilitation
IV-E12. Assess efficacy of interventions for auditory disorders
IV-E14. Serve as an advocate for patients, families, and other appropriate individuals
IV-E15. Document treatment procedures and results
IV-E16. Maintain records in a manner consistent with legal and professional standards
IV-E17. Communicate results, recommendations, and progress to appropriate individuals
IV-E18. Use instrumentation according to manufacturer’s specification and recommendations
IV-E19. Determine whether instrumentation is in calibration according to manufacturer’s specifications and recommendations
UNT POLICIES:

Academic Integrity Policy
Academic Integrity Standards and Consequences. According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University. [Insert specific sanction or academic penalty for specific academic integrity violation.

ADA Policy
UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide a student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one’s specific course needs. Students may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the ODA website at disability.unt.edu.

Emergency Notification & Procedures
UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please refer to Blackboard for contingency plans for covering course materials.

Retention of Student Records
Student records pertaining to this course are maintained in a secure location by the instructor of record. All records such as exams, answer sheets (with keys), and written papers submitted during the duration of the course are kept for at least one calendar year after course completion. Course work completed via the Canvas online system, including grading information and comments, is also stored in a safe electronic environment for one year. Students have the right to view their individual record; however, information about student’s records will not be divulged to other individuals without proper written consent. Students are encouraged to review the Public Information Policy and the Family Educational Rights and Privacy Act (FERPA) laws and the University’s policy. See UNT Policy 10.10, Records Management and Retention for additional information.

Acceptable Student Behavior
Student behavior that interferes with an instructor’s ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student’s conduct violated the Code of Student Conduct. The University's expectations for student conduct apply to all instructional forums, including University and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at deanofstudents.unt.edu/conduct.

Access to Information - Eagle Connect
Students’ access point for business and academic services at UNT is located at: my.unt.edu. All official communication from the University will be delivered to a student’s Eagle Connect account. For more information, please visit the website that explains Eagle Connect and how to forward e-mail: eagleconnect.unt.edu/

Student Evaluation Administration Dates
Student feedback is important and an essential part of participation in this course. The student evaluation of instruction is a requirement for all organized classes at UNT. The survey will be made available during weeks
13, 14 and 15 [insert administration dates] of the long semesters to provide students with an opportunity to evaluate how this course is taught. Students will receive an email from "UNT SPOT Course Evaluations via IASystem Notification" (no-reply@iasystem.org) with the survey link. Students should look for the email in their UNT email inbox. Simply click on the link and complete the survey. Once students complete the survey they will receive a confirmation email that the survey has been submitted. For additional information, please visit the SPOT website at http://spot.unt.edu/ or email spot@unt.edu.

**Sexual Assault Prevention**
UNT is committed to providing a safe learning environment free of all forms of sexual misconduct, including sexual harassment sexual assault, domestic violence, dating violence, and stalking. Federal laws (Title IX and the Violence Against Women Act) and UNT policies prohibit discrimination on the basis of sex, and therefore prohibit sexual misconduct. If you or someone you know is experiencing sexual harassment, relationship violence, stalking, and/or sexual assault, there are campus resources available to provide support and assistance. UNT’s Survivor Advocates can assist a student who has been impacted by violence by filing protective orders, completing crime victim’s compensation applications, contacting professors for absences related to an assault, working with housing to facilitate a room change where appropriate, and connecting students to other resources available both on and off campus. The Survivor Advocates can be reached at SurvivorAdvocate@unt.edu or by calling the Dean of Students Office at 940-565-2648. Additionally, alleged sexual misconduct can be non-confidentially reported to the Title IX Coordinator at oeo@unt.edu or at (940) 565 2759.