Electrophysiologic Assessment
ASLP 6770-001
Fall 2020

Instructor: Sharon Miller, Ph.D., CCC-A
Office: SPHS 214
Office Hours: By appointment

E-mail: sharon.miller@unt.edu
Office telephone: (940)-369-7385

Class Schedule: Wednesdays, 2:00-5:50 PM
Location: WH 117
Course credits: 4 credits

Lecture Materials and Required Readings


Supplemental Text: Handbook of Auditory Evoked Responses

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.

Course Description:
This course in electrophysiologic assessment will cover the theoretical and clinical aspects of auditory evoked potentials for clinical audiology. Content will be presented and learned through lecture, labs, exams, journal seminars, and assignments.

COVID-19 NOTE: This course meets face-to-face until November 28, 2020 when all classes transition to remote teaching. In the event UNT makes courses fully remote before November 28, our class will meet SYNCHRONOUSLY via Zoom at the regularly scheduled class time. All changes to the course schedule will be posted on the Canvas site. In the event the instructor contracts COVID-19, lectures will be held remotely (synchronously) while the instructor is quarantined at home. If the instructor is unable to deliver the materials remotely, alternate instructors and lecture formats will be developed.

Student Learning Outcomes

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

- Administer and interpret electrophysiologic assessments including ABR, MLR, and LLR. Stacked ABR, Chirp-CE ABR, ECochG and CHAMP will also be discussed.
- Use electrophysiologic measures to estimate hearing thresholds in infants and adults
- Use electrophysiologic measures to diagnose conductive, sensorineural, and retrocochlear pathologies
- Use LLR to evaluate cochlear implant and hearing aid function
- Use of LLR to evaluate effects of rehabilitative treatment

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

- Use evidence from lecture and assigned readings to complete an essay-based take home exam
- Read and critique selected research articles and participate in in-class journal seminars

**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 electrophysiological measures

**Course Requirements and Grading:**

1. Attendance is required for all class sessions.
2. In-class Exams (2) at 25% each 50%
3. Lab assignments (6 total) 30%
4. Journal Seminar Participation 10%
5. Final exam 5%

**Grading:**

- A 100-90%
- B 89-80%
- C 79-70%

**Policy on Incompletes:** All writing assignments, exams, and presentations must be completed during the Fall 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 there is 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.

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**Course Requirement Descriptions**

**In-class Exams**

There will be two in-class exams, each worth 25% 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.

**Lab Reports:** There will be 6 lab assignments introduced as part of class (although they will require time outside of class to complete). Active participation and completion of any assigned homework will account for 25% of your grade. **Labs are due to Canvas two weeks after they are assigned.** Labs must be turned in on time or points will be deducted. Due to COVID and reduced clinic access, students should contact the instructor ASAP if they are unable to complete the labs in a timely fashion.
**Lab “re-do” assignments:** You may be given the opportunity to redo a lab assignment to increase your score. If this is the case, your revised lab assignment must be received within 1 week. No late revisions will be accepted.

**Lab Procedures: Face-to-Face COVID protocols**

1. All students and instructors will need to self-monitor and be symptom free before they are allowed to enter the clinic to complete the labs.
2. Students MUST sign up ahead of time to complete the labs using the clinic Google Drive Sheet
   1. Date, time, and acknowledgement that student was symptom free must be recorded by student on the lab document.
3. Instructors, students, and lab partners are required to wear protective face coverings at all times during the labs.
4. Instructors and students are encouraged to wear gloves when interacting with a lab partner.
5. Students and instructors are required to wash hands frequently (especially before and after completing the lab) and exhibit safety precautions as recommended by the Centers of Disease Control (CDC) in order to ensure the safety of everyone in the clinic space.
6. All equipment and rooms that are utilized for the labs are to be thoroughly sanitized between lab groups.
   1. This will include proper use of disinfectants.
7. No more than 2 students are allowed in the ABR room at one time.

**Journal Seminar:** We will be reading 7 research articles this semester and use class time to discuss the papers. I will prepare a brief presentation for each article, and each student will be required to submit 3 questions or comments on the article to Canvas prior to the in-class discussion for the week. Comments and questions on the historical background about why the study was done, methods, results (figures, tables, etc), and discussion sections are appropriate. In class, we will discuss answers to your submitted questions and the clinical implications of the study.

**Readings:**


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<thead>
<tr>
<th>Date</th>
<th>Topics</th>
<th>Required Reading(s)/Assignment(s)</th>
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<tbody>
<tr>
<td>August 26</td>
<td>Syllabus Overview</td>
<td>Textbook: Ch. 1, 4</td>
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<td>Introduction to Course</td>
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<td>Introduction to Auditory Evoked Potentials</td>
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<td>September 2</td>
<td>ABR: Setup and recording parameters</td>
<td>Textbook: Ch. 2, 6</td>
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<td>Lab 1: ABR for a click stimulus assigned</td>
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<td>September 9</td>
<td>ABR: Stimulus parameters, waveform analysis</td>
<td>Textbook: Chapter 3</td>
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<td>September 16</td>
<td>ABR: Threshold assessment, tone-burst ABR, latency-intensity functions</td>
<td>Textbook: Ch. 14</td>
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<td>Lab 2: L-I functions for a click stimulus and threshold estimation assigned</td>
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<td>Journal Seminar #1: Gorga et al. (1998)</td>
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<td>September 23</td>
<td>Neuro-otologic Assessment</td>
<td>Textbook: Ch. 16</td>
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<td>Lab 3: Click stimulus measured ipsi-and contralaterally; Neurologic Protocol assigned</td>
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<td>Journal Seminar #2: Bauch et al. 1996</td>
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<td>September 30</td>
<td>Stacked ABR, CHAMP, Chirp-CE</td>
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<td>October 7</td>
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<td><strong>Exam 1</strong></td>
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<td>Lab 4: ABR with a CHIRP stimulus assigned</td>
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<td>Journal Seminar #3: Stevens et al. (2013)</td>
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<td>October 21</td>
<td>Newborn hearing screening: ABR, OAE</td>
<td>Textbook: Chapter 8</td>
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<td>Lab 5: ABR, OAE pediatric protocols assigned</td>
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<td>Journal Seminar #4: Berlin et al. (1998)</td>
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<td>October 28</td>
<td>eCoCHG</td>
<td>Textbook: Chapter 5</td>
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<td>November 4</td>
<td>eCoCHG: Clinical applications</td>
<td>Textbook: Chapter 12</td>
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<td>Journal Seminar #5: Stuermer et al. (2015a, b)</td>
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<td>Lab 6: Tiptrode Lab assigned</td>
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<td>November 11</td>
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<td><strong>Exam 2</strong></td>
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<td>November 18</td>
<td>MLR, LLR</td>
<td>Textbook: Ch. 9, 10</td>
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<td>Journal Seminar #6: Kraus and McGee (1994)</td>
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<tr>
<td>November 25</td>
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<td>NO CLASS – Thanksgiving Break</td>
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*Topics and dates subject to change at instructor’s discretion

COVID-19 Statements

**Attendance**
While attendance is mandatory, it is important for all of us to be mindful of the health and safety of everyone in our community, especially given concerns about COVID-19. Please contact me if you are unable to attend class because you are ill, or unable to attend class due to a related issue regarding COVID-19. It is important that you communicate with me prior to being absent so I may make a decision about accommodating your request to be excused from class.

If you are experiencing any symptoms of COVID-19 ([https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html](https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html)) please seek medical attention from the Student Health and Wellness Center (940-565-2333 or askSHWC@unt.edu) or your health care provider PRIOR to coming to campus. UNT also requires you to contact the UNT COVID Hotline at 844-366-5892 or COVID@unt.edu for guidance on actions to take due to symptoms, pending or positive test results, or potential exposure. While attendance is an important part of succeeding in this class, your own health, and those of others in the community, is more important.

**Class Materials for Remote Instruction**
The UNT fall schedule requires this course to have fully remote instruction beginning November 28th. Additional remote instruction may be necessary if community health conditions change or you need to self-isolate or quarantine due to COVID-19. Students will need access to Canvas, a webcam, and microphone to participate in fully remote portions of the class. Information on how to be successful in a remote learning environment can be found at [https://online.unt.edu/learn](https://online.unt.edu/learn).

**Statement on Face Covering**
Face coverings are required in all UNT facilities. Students are expected to wear face coverings during this class. If you are unable to wear a face covering due to a disability, please contact the Office of Disability Access to request an accommodation. UNT face covering requirements are subject to change due to community health guidelines. Any changes will be communicated via the instructor.

**Class Recordings**
If COVID-19 prevents a student from attending the course, or if due to changing conditions, classes are moved to remote delivery, classes may be recorded. Class recordings are the intellectual property of the university or instructor and are reserved for use only by students in this class and only for educational purposes. Students may not post or otherwise share the recordings outside the class, or outside the Canvas Learning Management System, in any form. Failing to follow this restriction is a violation of the UNT Code of Student Conduct and could lead to disciplinary action.
Student Policy Statements

1. Office of Disability Accommodation (ODA): “The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request reasonable accommodations at any time, however, ODA notices of reasonable 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 reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of reasonable accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information see the Office of Disability Accommodation website at http://www.unt.edu/oda. You may also contact them by phone at 940.565.4323.”

2. Academic Dishonesty: “UNT promotes the integrity of learning processed and embraces the core values of trust and honesty. Academic integrity is based on educational principles and procedures that protect the rights of all participants in the educational process and validate the legitimacy of degrees awarded by the university. In the investigation and resolution of allegations of student academic dishonesty, the university’s actions are intended to be corrective, educationally sound, fundamentally fair, and based on reliable evidence.”

The faculty expects a high level of responsibility and academic honesty. Any form of academic dishonesty will not be tolerated and will result in formal disciplinary action.

3. Statement of Diversity and Inclusion “The University of North Texas values diversity and individuality as part of advancing ideals of human worth, dignity and academic excellence. Diverse viewpoints enrich open discussion, foster the examination of values and exposure of biases, help educate people in rational conflict resolution, responsive leadership and prepare us for the complexities of a pluralistic society. As such, the University of North Texas is committed to maintaining an open, welcoming atmosphere that attracts qualified students, staff, and faculty from all groups to support their success. The University of North Texas does not discriminate on the basis of race, color, national or ethnic origin, religion, sex, sexual orientation, gender identity or expression, age, political affiliation, disability, marital status, ancestry, genetic information, citizenship, or veteran status in its application and admission process, educational programs and activities, employment policies and use of university facilities.”

4. Student Absence Due to Religious Holy Day “A student may be excused from attending classes or other activities, including examinations, for observance of a religious holy day, including travel for that purpose. A. A student should notify a faculty member of anticipated absence to observe religious holy days as early in the semester as possible. B. An excused student may not be penalized for the absence and must be allowed to complete any examination or an assignment missed during the absence within a reasonable period after the absence. The faculty member may
take appropriate action if a student fails to satisfactorily complete an assignment or examination within a reasonable time. C. If a student and faculty member disagree about whether the absence is due to observance of a religious holy day or whether the student has been given reasonable time to complete any missed assignment or examination, they may appeal the decision using the process outlined in UNT Policy 07.016, Student Complaint Policy or UNT Policy 06.040, Grade Appeals.”

5. **Sexual Harassment.** “It is the policy of the University of North Texas that acts of sexual harassment, as defined herein, toward guests of and visitors to the campus or any member of the University community including faculty, staff, students and candidates for positions at the University (regardless of the individual's gender) will not be tolerated. All members of the administration, faculty, staff and students will be subject to disciplinary action for violation of this policy. Members of the public doing business with the University who violate this policy may be subject to sanctions.” Full policy available at [https://policy.unt.edu/sites/default/files/16.005_SexualHarassment_2003.pdf](https://policy.unt.edu/sites/default/files/16.005_SexualHarassment_2003.pdf)

6. **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 Canvas for contingency plans for covering course materials.

This syllabus is available in alternative formats upon request.