Instructor: C. G. Marx, AuD, CCC-A  
Office: Room SRS 123  
Fax: 601-266-5224  
Email: charles.marx@usm.edu  
Phone: 266-6227

Office Hours: Tues/Thurs 10:45-11:30 and Thurs from 1:00 to 3:00

Drop Date: Additional handout will specify dates for specific semesters

Prerequisites: SHS 723

Credit Hours: 3

Course Description
This course covers advanced evoked potentials evaluation and interpretation.


Other readings/internet searches to be assigned as needed.

Course Overview
This course will prepare the AuD student to conduct, interpret, and write narrative summaries of auditory evoked potentials procedures, including early, middle, and late responses.

Course Outcomes
Students successfully meeting class requirements will be able to:

- describe evoked potential test protocols for auditory assessment
- determine appropriate test protocols for evaluating auditory function
- select appropriate instrumentation to obtain specific auditory evoked potentials
- obtain relevant case history and medical information required for evoked potential evaluation
- describe patient confidentiality requirements under state and federal law
- prepare patients for evoked potential testing
- obtain accurate evoked potential measurements
- write accurate and concise reports of test results
- troubleshoot equipment malfunctions and correct minor instrumentation defects
obtain, utilize and evaluate current research in the area of evoked potential measurement

**Student Learning Outcomes**
Learning outcomes are behaviors that are observable and measurable. At the completion of this course you will be able to:

- Describe advanced techniques for assessing auditory function and determining auditory thresholds
- Select and configure instrumentation to obtain appropriate physiologic responses to auditory stimuli
- Inform, instruct, prepare and counsel individuals involved in testing procedures
- Obtain accurate and reliable physiological responses to auditory stimuli
- Accurately record, interpret, and convey information about test results

**Instructional Strategies**
Meeting the instructional objectives will be determined on the basis of:

- At least two major written examinations
- Laboratory and internet assignments/lab project
- Article reviews
- Discussion of lab project assignments in class
- Demonstrations of evoked potential techniques and procedures
- Compilation of a lab notebook containing evoked potential samples

**Course Communication**
Students may contact the instructor outside the classroom by email (preferred) charles.marx@usm.edu or telephone (266-6227).

**Class Procedures and Requirements**

**A. Lab Project and Notebook:**
1. Auditory evoked potential recordings on a specified number individuals with the exact protocol to be discussed at the start of the project. **Do not begin the project until told to do so by the instructor.**

2. Your lab notebook will consist of the raw data obtained in the conduct of your lab project and skill demonstration samples.

**B. Article Reviews:**
Three article reviews will be required and can be turned in throughout the semester. Each article should concern some current topic or research interest in auditory evoked potentials. The review should be one to two double spaced type-written pages, follow APA style, be adequately referenced, and produced using a word processor. The due date for the first review will be announced during the first regular class session. Article reviews will be graded on a
continuum of -2 to +2 that may be added to the final average. No reviews will be accepted after the last regular class session. The reviews will be graded in accordance with guidelines that will be distributed by the instructor the first week of class.

Plagiarism: The University of Southern Mississippi policy on academic honesty and plagiarism will be enforced as described in the current Graduate Bulletin. Graded formative assessments, in whatever format, may be returned to students at times for review and or instructional purposes. Students will not be allowed to keep these assessments. They are to be intended for personal use only and should not be shared or otherwise made available to any other student. Violations of this principle will be considered academic misconduct and will be dealt with according to University policy.

C. Weekly Lab Project:
1. Each Week, class members will meet in the assigned classroom prior to re-assembling in the EP exam room.
2. The instructor will designate an examiner and an examinee for the EP exercise.
3. The instructor will describe the lab project to be conducted.
4. Class members not assigned as examiner or examinee will assist the designated examiner in preparing the examinee.
5. All class members are expected to attend to the procedure and to take appropriate notes.
6. Each student will be evaluated by the instructor during the weekly lab projects on competency for each EP procedure.
7. Behavior during lab projects is closely scrutinized by the instructor for class participation grading purposes.

Class Attendance: You are allowed three absences without penalty. For each unexcused absence in excess of three, 10 points will be deducted from your final grade. Please be on time for class. For each tardy arrival (≥10 minutes late) 1 point will be subtracted from your final grade. Also, the instructor retains the right to treat tardiness as a measure of class participation for arrivals < 10 minutes late.

Evaluation Criteria: The final grade will be based on exam scores (150 points), student’s demonstration of procedures (pass/fail: pass = 91 points added to test scores for averaging and 60 points added when failed), lab assignment and lab notebook (same grading paradigm as procedure demonstration), article reviews (-2 to +2 added to final average dependent upon quality), class participation, tardiness, and attendance. Exams may consist of multiple choice questions, true-false questions, fill in the answer, identifying graphical representations, and other venues that appropriately assess knowledge and/or skills. A make up exam will be given only for an absence excused by the instructor which will be rare and critically defined. If you miss an exam and take a make-up exam, the content of the make-up exam will not necessarily be the same as the exam that you missed.
Lab demonstrations will be designed to give you practice in performing the procedures covered in class; failure to successfully complete all lab assignments/test demonstrations will result in 60 points being added to the exam scores for averaging purposes.

Class participation is graded by the instructor after each class meeting. The instructor may assign a value ranging from -1 to +1 for each class meeting. A zero would represent appropriate participation in class discussions, questions asked, etc. At the end of the semester, 1 point may be added or deducted from the final average based on the student’s class participation. The instructor will inform students who achieve -1 grades for class participation.

**Grading Scale**
The total number of points earned will be divided by the total number of possible points. That percentage will be used to determine your grade according to the following scale:

<table>
<thead>
<tr>
<th>Percent</th>
<th>Grade</th>
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</thead>
<tbody>
<tr>
<td>90-100</td>
<td>A</td>
</tr>
<tr>
<td>80-89</td>
<td>B</td>
</tr>
<tr>
<td>70-79</td>
<td>C</td>
</tr>
<tr>
<td>60-69</td>
<td>D</td>
</tr>
<tr>
<td>&lt;60</td>
<td>F</td>
</tr>
</tbody>
</table>

Exam 1: Date to be announced (TBA) with additional class handout
Exam 2: Date TBA

**Final Exam:** Date TBA

**Academic Integrity:**
All students at the University of Southern Mississippi are expected to demonstrate the highest levels of academic integrity in all that they do. Forms of academic dishonesty include (but are not limited to):

1. Cheating (including copying from others’ work)
2. Plagiarism (representing another person’s words or ideas as your own; failure to properly cite the source of your information, argument, or concepts)
3. Falsification of documents
4. Disclosure of test or other assignment content to another student
5. Submission of the same paper or other assignment to more than one class without the explicit approval of all faculty members’ involved
6. Unauthorized academic collaboration with others
7. Conspiracy to engage in academic misconduct
Engaging in any of these behaviors or supporting others who do so will result in academic penalties and/or other sanctions. If a faculty member determines that a student has violated our Academic Integrity Policy, sanctions ranging from resubmission of work to course failure may occur, including the possibility of receiving a grade of “XF” for the course, which will be on the student’s transcript with the notation “Failure due to academic misconduct.” For more details, please see the University’s Academic Integrity Policy. Note that repeated acts of academic misconduct will lead to expulsion from the University.

**Office hours:** My office is located in room 123; office hours are posted on the door and other times are available by arrangement.

**Knowledge and Skills** In this course you will acquire knowledge content areas that you can recall, discuss, and apply to clinical situations and skills (learned capacity to perform some task). Your acquisition of knowledge and skills will be assessed during the course of the semester (through formative assessment) and at the end of the semester (through summative assessments). Formative assessments will measure your progress during the course of the semester; they include but are not limited to: a. examinations of your knowledge as well as assessments of your ability to conduct clinical procedures, and b. class participation: your contributions to class discussions and your performance on classroom presentations. Should formative assessments indicate that you are not meeting the objectives of the class, you may be required to participate in remedial activities designed to permit you to successfully complete the course (such as observation of others that are performing the task appropriately, assignment of additional literature review of the current topic area, or direct discussion of the topic area and performance of the EP test with the Electrophysiology supervisor). Participation in those remedial activities, however, will not guarantee your successful completion of the course.

The summative assessment (cumulative final examination) will determine if you have acquired the overall knowledge and skills expected of students completing the course.

**ASHA Standards:** This course is designed to meet the following standards for the Certificate of Clinical Competence in Audiology from the American Speech-Language-Hearing Association:

- Standard IV-B1, B2, B3
- Standard IV-C1, C2, C3, C4, C5, C7, C10, C11
- Standard IV-D1, D2, D5
- Standard IV-F1, F2

A description of each standard can be found at the following URL: [http://www.asha.org/Certification/2012-Audiology-Certification-Standards/](http://www.asha.org/Certification/2012-Audiology-Certification-Standards/)
## Tentative Sequence of Lecture Topics from the Text

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Topic</th>
<th># Lectures/Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix</td>
<td>Normative Data</td>
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</tr>
<tr>
<td>Glossary</td>
<td>Terminology and vocabulary</td>
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</tr>
<tr>
<td>0</td>
<td>Introduction and Course Review</td>
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<tr>
<td>1</td>
<td>Overview of Auditory Neurophysiology</td>
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</tr>
<tr>
<td>2</td>
<td>Anatomy and Physiology of Auditory Evoked Responses</td>
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</tr>
<tr>
<td>X</td>
<td>Otoacoustic Emission Analysis and Interpretation</td>
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</tr>
<tr>
<td>3</td>
<td>Introduction to Auditory Evoked Response Measurement</td>
<td>1/1</td>
</tr>
<tr>
<td>4</td>
<td>Electrocochleography: Protocols and Procedures</td>
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<tr>
<td>5</td>
<td>ECochG: Clinical Applications and Populations</td>
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<tr>
<td>6</td>
<td>ABR Parameters, Protocols, and Procedures</td>
<td>2</td>
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<tr>
<td>7</td>
<td>ABR Analysis and Interpretations</td>
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<tr>
<td>8</td>
<td>Frequency-Specific Auditory Brainstem Response and Auditory Steady State Response</td>
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</tr>
<tr>
<td>9</td>
<td>ABR: Pediatric Clinical Applications and Populations</td>
<td>1/1</td>
</tr>
<tr>
<td>10</td>
<td>ABR: Adult Diseases and Disorders and Clinical Applications</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>Auditory Middle Latency Response</td>
<td>1/.3</td>
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<tr>
<td>12</td>
<td>Auditory Late Response</td>
<td>.5/.3</td>
</tr>
<tr>
<td>13</td>
<td>P300 Response</td>
<td>.5/.3</td>
</tr>
</tbody>
</table>

**Total** 16/11

If a student has a disability that qualifies under the Americans with Disabilities Act (ADA) and requires accommodations, he/she should contact the Office for Disability Accommodations (ODA) for information on appropriate policies and procedures. Disabilities covered by ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact ODA for clarification if they are not certain whether a medical condition/disability qualifies.

Address: The University of Southern Mississippi Office for Disability Accommodations, 118 College Drive # 8586, Hattiesburg MS 39406-0001. Voice Telephone: (601) 266-5024 or (228) 214-3232 Fax: (601) 266-6035. Individuals with hearing impairments can contact ODA using the Mississippi Relay Service at 1-800-582-2233 (TTY) or email ODA at oda@usm.edu.
UNIVERSITY OF SOUTHERN MISSISSIPPI
DEPARTMENT OF SPEECH AND HEARING SCIENCES
Format for Grading an Article Review

Student Name: __________________________ Date: ___________ Course: ___________

Paper topic or title: ____________________________________________________________

Characteristics Considered

1. Content
   a. Material presented is relevant
   b. Breadth and Depth of discussion is appropriate
   c. Writing is clear and easily understood
   d. Complex ideas are explained adequately

2. Organization
   a. Review is presented in a well thought out manner in a descriptive, personal manner.
   b. Headings are appropriate and sufficient
   c. Strengths and Weaknesses/suggestions for future research
   d. References are appropriately listed

3. Spelling and grammar
   a. Paper is free of spelling and Grammatical errors

4. Timeliness
   a. Completed in accordance with time constraints.

   Points Earned: -2 to +2 points added to final average
UNIVERSITY OF SOUTHERN MISSISSIPPI  
DEPARTMENT OF SPEECH AND HEARING SCIENCES 

Format for Grading Demonstration of a Skill/Task/Procedure 

<table>
<thead>
<tr>
<th>Procedure/Skill/Task</th>
<th>*Successful Demonstration</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ECochG</td>
<td>____________</td>
<td>______</td>
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<tr>
<td>2. ABR Threshold</td>
<td>____________</td>
<td>______</td>
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<tr>
<td>3. ABR Diagnostic</td>
<td>____________</td>
<td>______</td>
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<tr>
<td>4. AEP MLR</td>
<td>____________</td>
<td>______</td>
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<tr>
<td>6. P1-N1-P2/ALR</td>
<td>____________</td>
<td>______</td>
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</tbody>
</table>

* A check mark or X designates that the instructor has judged that the above named student has demonstrated proficiency in accomplishing the described skill, task, or procedure. Proficiency includes demonstration of understanding the underlying fundamental concepts as well as the ability to administer and interpret the skill, task, or procedure with no assistance from the instructor.
Format for Grading Lab Project

Student Name: __________________________   Instructor: ___________________

Course: SHS 743

1. Completeness

2. Organization/Clarity

3. Adherence to assignment

4. Timeliness

5. Spelling and grammar

6. Remainder of points is dependent upon data collection

Points for skill demonstration and lab project are as follows: Pass—91 points added to exam scores for averaging purposes, fail—60 points added to exam scores for averaging purposes.