ACC Electroneurodiagnostics Program
ENDT1463 Electroneurodiagnostics Clinical I

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<tr>
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<tr>
<td>Office: S250</td>
<td>Phone: 281-756-5643</td>
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<td>Office Hours: By Appointment Only</td>
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A. COMMUNICATING WITH THE PROFESSOR

The preferred method for communication is through ACC E-mail. I will be available to meet with anyone who contacts me to set up an appointment via e-mail. If you need to speak with the Program Chair please email spedigo@alvincollege.edu to set up an appointment.

Students will generally receive a response via e-mail within 24 hours on weekdays if their e-mail is sent before 2:00 p.m.

B. COURSE DESCRIPTION

This course provides the student with patient contact in an EEG lab. The student will have the opportunity to observe, perform (under supervision), and evaluate EEGs.

C. METHODOLOGY

This course consists of a 16 hour laboratory class that meets in the clinical affiliates or at ACC EEG Lab for 16-weeks. There is a mandatory 4 hour open lab which will be designated for practical EEG study application and instrumentation review. Students will rotate through clinical facilities. Refer to clinical schedule.

D. PRE-REQUISITES/CO-REQUISITES

ENDT1345, ENDT1350 (pre-requisites)
PSTG1310, ENDT2425 (co-requisite)

E. CLASS ATTENDANCE POLICY


F. TEXTBOOKS

Clinical Manual
G. COURSE GOALS, OBJECTIVES AND COMPETENCIES

Course Objectives

To train students to become competent and experienced neurodiagnostic technologists for entry level employment in the END field.

STUDENT OBJECTIVES

The outcome for this clinical experience will prepare the student for the next level of clinical in the summer. The goals for this rotation are for the student to be able to:

- Measure and apply electrodes accurately. This will provide increased hands on time to enhance proficiency, efficiency, and confidence with both EEG equipment and application skills.
- Perform routine testing.
- Recognize normal EEG activity and be able to recognize some basic abnormalities.
- Develop professional attitudes for health care delivery

COURSE COMPETENCIES

1. The student provides a safe recording environment by:
   a. verifying identity of patient;
   b. cleaning electrodes after each procedure;
   c. following universal precautions for infection control;
   d. attending to patient needs appropriately;
   e. recognizing/responding to life-threatening situations;
   f. being certified to perform CPR;
   g. following laboratory protocols for sedation;
   h. complying with lab protocols for emergency and disaster situations;
   i. complying with hazardous material handling procedures;
   j. maintaining instrument/equipment in good working order; and
   k. taking appropriate precautions to ensure electrical safety.

2. The student establishes rapport with the patient and patient's family by:
   a. using personal communication skills to achieve patient relaxation/cooperation;
   b. explaining all test procedures including activation procedures;
   c. explaining the electrode application method (paste, collodion, etc.);
   d. interacting on a level appropriate to patient's age and mental capacity; and
   e. maintaining respect and patient confidentiality.

3. The student evaluates the patient to:
   a. determine the patient's mental age, mental state, and comprehension level;
   b. note the patient's overall physical condition;
   c. decide appropriate method of electrode application;
   d. ascertain the patient's capacity to cooperate with activation procedures;
   e. determine if hyperventilation is contraindicated;
   f. accommodate for disabilities or special needs;
   g. determine the need for additional physiological monitors;
   h. document unusual or inappropriate behavior suggestive of seizure or other event; and
   i. determine the possible need for restraints or emergency intervention.
4. The student prepares a basic data sheet ("tech sheet") that includes:
   a. patient information (name, age, ID number, doctor, etc.);
   b. recording time, date, and graduate’s name or initials;
   c. noting pertinent patient history and familial medical history;
   d. listing current medications/sedation and time of last dosage;
   e. noting time of last meal;
   f. noting time, date, aura, and circumstances of last seizure or symptoms;
   g. specifying the patient's mental, behavioral, and consciousness states;
   h. diagramming skull defects or anomalies (if any); and
   i. diagramming any modifications in electrode placement.

5. The student’s electrode application follows a method that includes:
   a. measuring and marking the head following the 10/20 measurement system;
   b. adjusting electrode placement for anatomical defects or anomalies;
   c. prepping patient's scalp prior to electrode application;
   d. applying electrodes with paste or with collodion and electrolyte; and
   e. verifying electrode impedances are balanced and below 5,000 Ohms.

6. The student has basic knowledge of analog EEG technology.

7. The student documents the working condition of a digital EEG instrument by:
   a. calibrating system amplifiers;
   b. verify standard filter settings;
   c. verify sensitivity settings;
   d. inputting a biological (bio-cal) signal to all channels; and
   e. corrects or reports deviations as appropriate.

8. The student obtains a standard EEG that includes:
   a. at least 20 minutes of technically acceptable recording (120 pages);
   b. eye opening and closing to check effects of stimuli on EEG;
   c. hyperventilation for a minimum of 3 minutes;
   d. photic stimulation at frequencies appropriate for history & reactivity;
   e. mental stimulation/assessment procedures;
   f. periodic checks of electrode impedance;
   g. natural drowsiness and sleep, if possible;
   h. notations of montage, filters, paper speed, & sensitivity setting changes; and
   i. notes on observed behavior, clinical seizure manifestations, etc.

9. The student differentiates artifacts from cerebral waveforms by:
   a. recognizing possible artifactual waveforms;
   b. documenting (on the recording) patient movements;
   c. applying/recording leads for eye potentials or other physiological potentials (ie. respiration, EMG);
   d. applying/recording leads for ECG;
   e. replacing electrodes exhibiting questionable activity or contact; and
   f. troubleshooting for possible electrical interference.
10. When the EEG recording is finished the student:
   a. removes electrode paste/glue from the patient's scalp and hair;
   b. describes clinically significant behavior;
   c. documents sedation used, dosage, and effects (if applicable); and
   d. reviews EEG for appropriate documentation of amplifier settings & montage changes

H. ASSIGNMENTS, EXAMS & GRADING SUMMARY

COMPETENCY EVALUATIONS

Performance Evaluations: Each student will be required to be evaluated after they have performed at least the minimum number of observations and performances of a procedure. Your clinical instructor will observe you performing the procedure, assess your performance of the procedure, and test your knowledge of the procedure. This will be done using the Competency Evaluations supplied in your clinical handbook. Your clinical instructor will then complete the Performance Evaluation for that procedure and sign the form. If you do not perform the procedure satisfactorily, your clinical faculty can decide at which level you are deficient.

COMPETENCY EVALUATION GRADING SCALE

95 = Passed
80 = Needs Improvement
75 = Unsatisfactory, major (student needs to be re-evaluated)
65 = Satisfactory evaluation after two (2) unsatisfactory evaluations

Students must receive a minimum grade of “Satisfactory” on all competency evaluations. Evaluations with a grade lower than a “Satisfactory” must be repeated. ALL competency evaluation grades will be averaged at the end of the semester. A competency evaluation grade of less than “Satisfactory” at the end of the semester in any skill will result in the student receiving an incomplete (I) for the course. Student may attempt to be checked off on competency evaluations a maximum of three (3) times. Each attempt must be on a different date and within an acceptable time frame as designated by the instructor. Failure to be checked off after a third attempt in any skill will result in the student receiving an “F” for the course.

BEHAVIORAL EVALUATIONS

A behavioral evaluation is required to be completed at the end of each rotation. The evaluation must be completed by the clinical coordinator and the preceptor who spent the majority of the clinical time with the student and must be signed by the preceptor.

Grading Scale for Behavioral Evaluations

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<th>Rating</th>
<th>Scoring Criteria</th>
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<tbody>
<tr>
<td>Strongly Disagree</td>
<td>1</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
</tr>
<tr>
<td>Neutral</td>
<td>3</td>
</tr>
<tr>
<td>Agree</td>
<td>4</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>5</td>
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Students must make and average 0f 75 or better
Your grade is based on the average you receive on all course assignments and activities. Always notify your instructor if you are concerned with your grades or your status in the class.

I. **Incomplete.** No Incompletes or "I" grades will be given except for extreme circumstances. If an "I" grade is assigned and the course work is not completed by the pre-arranged time limit, this grade will convert to an “F.”

W. **Withdrawal.** Students who file withdrawal requests by the published deadline will receive a grade of “W.” If a decision is made to withdraw, the student must start the process at the Enrollment Services Center, room A-100, before the deadline. Failure to withdraw may result in a grade of F.

I. **LATE COURSE WORK POLICY.** Any missed exam will be made up at a time decided upon by the instructor IF a medical excuse or family emergency can be shown. In the case of a family emergency advanced notice must be given prior (preferably via e-mail) to any ACC Electroneurodiagnostic Program Instructor. In the event of an unexcused missed exam or presentation no make-up will be given. There will be no exceptions to this rule.

J. **EXAM POLICY.** There will be unit exams given at the end of units and a comprehensive final given at the end of the semester. These exams will be over material covered in each unit and may contain multiple choice, short answer, matching and essay questions.

K. **EXPECTATIONS**

1. Students are expected to familiarize themselves with the clinical manual by the first week of class.

2. Some of the lectures in this class will be conducted by guest speakers who are professionals from the END community and have graciously volunteered their time. Therefore students are expected to attend class each time it is in session and be seated and ready prior to the start of class.

L. **ACADEMIC SUCCESS AND SUPPORT SERVICES**

1. Computers are available for use by all registered ACC students in many of the 23 ACC/PCC computer labs, including the Cyber Lab, room A-173. Cyber Lab hours are: Mon-Thurs. 8:00 a.m.- 8:00 p.m., Friday 8:00 a.m. – 5:00 p.m. and Sunday 4:00 p.m.- 8:00 p.m. Call 281-756-3544 for more information about all ACC computer labs. Students will not be penalized if there is interruption in MyBlackboard, if the instructor is notified of such an issue from the Distance Education Department.

2. The ACC Library website is: [http://www.alvincollege.edu/library/default.htm](http://www.alvincollege.edu/library/default.htm)

3. The ACC Learning Lab and Writing Center, A-235, is for tutoring, exams, and additional computer access: [http://www.alvincollege.edu/resources/learning lab.htm](http://www.alvincollege.edu/resources/learning lab.htm)
4. MyBlackboard-Any technical problems or issues with MyBlackboard should be directed to the Distance Education Department at de@alvincollege.edu. Include your first and last name, student ID number and a description of the problem.

5. WEBACCESS, Passwords or Computer Labs-contact the IT Dept. Help Desk at 281-756-3544

M. AMERICANS WITH DISABILITIES ACT- ACC complies with ADA and 504 Federal guidelines by affording equal access to individuals who are seeking an education. Students who have a disability and would like classroom accommodations must register with the Office of Disability Services, A 136, (281)756-3533. Instructors are not able to provide accommodations until the proper process has been followed.

N. CODE OF ACADEMIC INTEGRITY AND HONESTY- Students at Alvin Community College are members of an institution dedicated to the pursuit of knowledge through a formalized program of instruction and learning. At the heart of this endeavor, lie the core values of academic integrity which include honesty, truth, and freedom from lies and fraud. Because personal integrity is important in all aspects of life, students at Alvin Community College are expected to conduct themselves with honesty and integrity both in and out of the classroom. Incidents of academic dishonesty will not be tolerated