END-1300: INTRODUCTION TO ELECTRONEURODIAGNOSTIC TECHNOLOGY

Cuyahoga Community College

Board of Trustees:
January 2016

Academic Term:
Fall 2016

Subject Code
END - Electroneurodiagnostic

Course Number:
1300

Title:
Introduction to Electroneurodiagnostic Technology

Catalog Description:
Introduction and orientation to health careers in field of electroneurodiagnostic including specific duties, certifications and licensure requirements, work setting and conditions, and career ladder opportunities. Overview of standards of practice of clinical neurophysiology with emphasis on neuroscience technique, instrumentation, terminology of electroneurodiagnostic practices and recording/monitoring techniques utilized in determination of treatment plans for neurological disorders, and basic medical terminology.

Credit Hour(s):
2

Lecture Hour(s):
2

Requisites
Prerequisite and Corequisite
None.

I. ACADEMIC CREDIT

Academic Credit According to the Ohio Department of Higher Education, one (1) semester hour of college credit will be awarded for each lecture hour. Students will be expected to work on out-of-class assignments on a regular basis which, over the length of the course, would normally average two hours of out-of-class study for each hour of formal class activity. For laboratory hours, one (1) credit shall be awarded for a minimum of three laboratory hours in a standard week for which little or no out-of-class study is required since three hours will be in the lab (i.e. Laboratory 03 hours). Whereas, one (1) credit shall be awarded for a minimum of two laboratory hours in a standard week, if supplemented by out-of-class assignments which would normally average one hour of out-of-class study preparing for or following up the laboratory experience (i.e. Laboratory 02 hours). Credit is also awarded for other hours such as directed practice, practicum, cooperative work experience, and field experience. The number of hours required to receive credit is listed under Other Hours on the syllabus. The number of credit hours for lecture, lab and other hours are listed at the beginning of the syllabus. Make sure you can prioritize your time accordingly. Proper planning, prioritization and dedication will enhance your success in this course.

The standard expectation for an online course is that you will spend 3 hours per week for each credit hour.

II. ACCESSIBILITY STATEMENT

If you need any special course adaptations or accommodations because of a documented disability, please notify your instructor within a reasonable length of time, preferably the first week of the term with formal notice of that need (i.e. an official letter from the Student Accessibility Services (SAS) office). Accommodations will not be made retroactively.
For specific information pertaining to ADA accommodation, please contact your campus SAS office or visit online at http://www.tri-c.edu/accessprograms. Blackboard accessibility information is available at http://access.blackboard.com.
III. ATTENDANCE TRACKING

Regular class attendance is expected. Tri-C is required by law to verify the enrollment of students who participate in federal Title IV student aid programs and/or who receive educational benefits through other funding sources. Eligibility for federal student financial aid is based in part on enrollment status.

Students who do not attend classes for the entire term are required to withdraw from the course(s). Additionally, students who withdraw from a course or stop attending class without officially withdrawing may be required to return all or a portion of their financial aid based on the date of last attendance. Students who do not attend the full session are responsible for withdrawing from the course(s).

Tri-C is responsible for identifying students who have not attended a course before financial aid funds can be applied to students’ accounts.

Therefore, attendance is recorded in the following ways:

- For in-person and blended-learning courses, students are required to attend the course by the 15th day of the semester (or equivalent for terms shorter than five weeks) to be considered attending. Students who have not met all attendance requirements for in-person and blended courses, as described herein, within the first two weeks or equivalent, will be considered not attending.
- For online courses, students are required to login at least two times per week and submit one assignment per week for the first two weeks of the semester, or equivalent to the 15th day of the term. Students who have not met all attendance requirements for online courses, as described herein, within the first two weeks or equivalent, will be considered not attending.

At the conclusion of the first two weeks of a semester or equivalent, instructors report any registered students who have “Never Attended” a course. Those students will be administratively withdrawn from that course. However, after the time period in the previous paragraphs, if a student stops attending a class or wants or needs to withdraw, for any reason, it is the student’s responsibility to take action to withdraw from the course. Students must complete and submit the appropriate Tri-C form by the established withdrawal deadline.

Tri-C is required to ensure that students receive financial aid only for courses that they attend and complete. Students reported for not attending at least one of their registered courses will have all financial aid funds held until confirmation of attendance in registered courses has been verified. Students who fail to complete at least one course may be required to repay all or a portion of their federal financial aid funds and may be ineligible to receive future federal financial aid awards. Students who withdraw from classes prior to completing more than 60 percent of their enrolled class time may be subject to the required federal refund policy.

If illness or emergency should necessitate a brief absence from class, students should confer with instructors upon their return. Students having problems with coursework due to a prolonged absence should confer with the instructor or a counselor.

IV. LEARNING OUTCOMES ASSESSMENT

Occasionally, in addition to submitting assignments to their instructors for evaluation and a grade, students will also be asked to submit completed assignments, called ‘artifacts,’ for assessment of course and program outcomes and the College’s Essential Learning Outcomes (ELOs). The artifacts will be submitted in Blackboard or a similar technology. The level of mastery of the outcome demonstrated by the artifact DOES NOT affect the student’s grade or academic record in any way. However, some instructors require that students submit their artifact before receiving their final grade. Some artifacts will be randomly selected for assessment, which will help determine improvements and support needed to further student success. If you have any questions, please feel free to speak with your instructor or contact the Learning Outcomes Assessment office.

V. CONCEALED CARRY STATEMENT

College policy prohibits the possession of weapons on college property by students, faculty and staff, unless specifically approved in advance as a job-related requirement (i.e., Tri-C campus police officers) or, in accordance with Ohio law, secured in a parked vehicle in a designated parking area only by an individual in possession of a valid conceal carry permit.

As a Tri-C student, your behavior on campus must comply with the student code of conduct which is available on page 29 within the Tri-C student handbook, available at http://www.tri-c.edu/student-resources/documents/studenthandbook.pdf You must also comply with the College’s Zero Tolerance for Violence on College Property available at http://www.tri-c.edu/policies-and-procedures/documents/3354-1-20-10-zero-tolerance-for-violence-policy.pdf

Outcomes

Course Outcome(s):

Make an informed decision regarding pursuing a career as an Electroneurodiagnostic Technologist.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.
Objective(s):
1. Discuss the job responsibilities of an electroneurodiagnostic technologist.
2. Demonstrate the ability to practice universal precautions and patient safety.
3. Discuss the history of electroneurophysiology and its future directions.
4. Discuss the standards of practice for various electroneurodiagnostic procedures.
5. Discuss the pathogenic and clinical aspects of various neurological process.
6. Describe basic electronics as applied in electroneurodiagnostic testing procedures.
7. Describe basic instrumentation used in electroneurodiagnostic equipment including signal averaging.
8. Discuss pharmacological effects on electroneurodiagnostic procedures.

Course Outcome(s):
Communicate with other health career professionals utilizing terminology applied to the neurosciences specifically used in electroneurodiagnostic fields through written, oral, and digital means.

Essential Learning Outcome Mapping:
Written Communication: Demonstrate effective written communication for an intended audience that follows genre/disciplinary conventions that reflect clarity, organization, and editing skills.

Objective(s):
1. Correctly spell, define, and pronounce medical terms used in the field of electroneurodiagnostic technology.
2. Explain how various medical terms, symbols, and abbreviations are used in the clinical setting.
3. Recognize and identify components of medical terms used in the field of electroneurodiagnostic technology.

Methods of Evaluation:
1. Quizzes
2. Exams
3. Comprehensive final
4. Writing Assignment (research paper on neurological disorder)

Course Content Outline:
1. History of electroneurodiagnostic technology
   a. Presentation
   b. Use in diagnosis
2. Job responsibilities of the electroneurodiagnostic technologist
   a. Specific duties
   b. Work setting and working conditions
   c. Salaries
   d. Employment outlook
   e. Career ladder availability
   f. Licensure and certification requirements
   g. Interaction with other health career programs
   h. Communications
      i. various modes of communication used in neurosciences
         1. written
         2. oral
         3. digital
      ii. applied electroneurodiagnostic terminology
      iii. components of electroneurodiagnostic reports
3. Ethics of patient care
   a. Review of patient’s expectations, behaviors, and perceptions
   b. Universal precautions
   c. Patient assessments
   d. Patient safety
4. Overview of neurological disorders and discussion of neuropathology’s
   a. Symptoms of neurological disorder
   b. Neurological disorders of known pathologies
      i. infections of nervous system
      ii. vascular diseases
c. Disorders of cerebrospinal and brain fluids
d. Tumors
e. Trauma
f. Birth injuries and developmental abnormalities
g. Genetic diseases and recognized biochemical abnormalities
h. Neurological disorders of uncertain pathogenesis
   i. cerebral degeneration of childhood
   ii. neurocutaneous disorders
   iii. cranial nerve disorders
   iv. peripheral nerve disorders
   v. movement disorders
   vi. spinal cord diseases
i. Neurology of the Environment
   i. alcoholism
   ii. chemical abuse
   iii. iatrogenic diseases
   iv. pollutants and industrial hazards
   v. acquired immunodeficiency syndrome

5. Discussion of recommended standards of practices for the various Electroneurophysiology procedures
   a. Standards of electronics and application for
      i. electroencephalography
      ii. evoked potentials
      iii. electromyography and nerve conduction studies
      iv. intra operative monitoring
   b. Overview of basic electrical safety
   c. Instrumentation and signal averaging

6. Pharmacological effects on neurological disorders that are involved in electroneurodiagnostic procedures

7. Medical terminology
   a. Prefixes
   b. Suffixes
   c. Anatomical Positions
   d. Body Planes
   e. Directional Terms

- **Resources**


Resources Other
1. American Electroencephalography Society Guidelines in EEG and Evoked Potentials,

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