

**BOARD OF REGENTS  
STATE OF IOWA  
REGENT MERIT SYSTEM**

**Class Title:** Electroneurodiagnostic  
Technician I

**Class Code:** 3302  
**Pay Grade:** 410

**GENERAL CLASS DESCRIPTION:**

Under general supervision, selects, modifies and maintains electronic equipment while providing medical patient care, testing and instruction. Performs electroneurodiagnostic tests for patients exhibiting a variety of physical and mental states, exercising judgment and initiative. Serves on a regular, stand-by and on-call basis.

**CHARACTERISTIC DUTIES AND RESPONSIBILITIES:**

1. Analyzes and modifies complex AC waveforms and selects electrical circuits while performing electrophysiological tests using instruments, computers and signal averaging equipment. Electroneurodiagnostic testing to be conducted includes:
  - a) Stimulating patients to produce, analyze and record data from the central and peripheral nervous system.
  - b) Performing evoked responses in the operating room and intensive care units.
  - c) Assessing depth of anesthesia and monitoring patients in coma.
  - d) Monitoring and recording EEGs in the Epilepsy Service long-term care unit.
  - e) Conducting patient evaluation in physiological polysomnography.
  - f) Preparing surgery patients, and equipment, for and during carotid endarterectomy, electrocorticography and other neurosurgical, orthopaedic and otolaryngologic procedures.
  - g) Performing studies to determine and verify cerebral death.
  - h) Performing EEG recordings in all patient care settings.

The tasks listed under the heading of Characteristic Duties and Responsibilities are examples of the variety and general nature of duties performed by employees in positions allocated in the class. The list is descriptive only and should be used for no other purpose. It is not intended that any position include every duty listed, nor is it intended that related duties cannot be required.

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2. Analyzes and measures voltages, frequency, duration and polarity of electrical field distribution to determine the source of electrical potentials.
3. Ensures electrical, chemical and physical safety of patients, staff, students and equipment.
4. Provides testing information to patients, public, staff and students and provides results to physicians.
5. Solicits patient medical histories by interview; evaluates and documents patient's clinical condition and mental status during testing procedures.
6. Communicates with medical faculty, physicians and surgeons using specific scientific medical terminology.
7. Troubleshoots, calibrates and corrects instruments using impedance meter and volt-ohm meter to prevent interpretation errors and down time.
8. Supervises students as directed.
9. Maintains confidentiality of medical and electroneurodiagnostic records.

**KNOWLEDGES, SKILLS AND ABILITIES:**

1. Knowledge of electroneurodiagnostic techniques used in peripheral and central nervous system monitoring.
2. Knowledge of neurological, psychiatric, pediatric, metabolic and trauma disorders.
3. Knowledge of neuroanatomy and its application to the understanding of the patient's condition.
4. Skill in operating computerized electrophysiological instrumentation requiring a knowledge base of analog-to-digital conversion.
5. Knowledge of maintenance requirements of specialized EEG equipment.
6. Knowledge of neurological and electrodiagnostic terminology, scientific notation, and general medical terminology.
7. Knowledge of electrical safety and interfaces with various electrical systems.
8. Ability to communicate with physicians, nurse, and other allied health personnel.
9. Ability to transport equipment weighing 350-400 lbs.

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10. Ability to visually recognize minute electroneurophysiological activity and changes, and to predict appropriate testing methods.
11. Ability to teach and instruct others.

**MINIMUM ELIGIBILITY REQUIREMENTS:**

1. Eligibility for registration by the American Board of Registration of EEG/EP Technologist (ABRET), Part I.
2. a) Satisfactory completion of a two-year degree program in electroneurodiagnostic technology; or  
b) Combination of training and experience in a related field equaling three years.

**REVISION EFFECTIVE: July 1, 1993**