

# Neurodiagnostic Technology (Associate of Applied Science) - Memphis

## Associate of Applied Science

**Contact Hours:** 1,855

**Semester Credits:** 84

**Instructional Weeks – Full Time:** 70

**Average Time to Complete – Full Time:** 17 Months

Program offered at: Memphis, Tennessee

## Program Summary

This program is designed to provide graduates with the knowledge and practical skills needed for entry-level employment as a Neurodiagnostic or Polysomnography Technologist. The program combines classroom and laboratory studies with clinical training in healthcare facilities. Through a series of General Education courses, the student will also develop skills in communication, interpersonal relations, and critical thinking.

## Program Overview

Neurodiagnostic Technology (NDT) is the medical diagnostic field devoted to the recording and study of electrical activity in the brain and nervous system. Neurodiagnostic Technologists possess the knowledge, skills, and attributes to obtain interpretable recordings of patients' nervous system function. They work in collaboration with medical researchers, clinicians, physicians, and other health professionals.

The Neurodiagnostic Technologist may be involved in one or more of the following diagnostic procedures: electroencephalography (EEG), evoked potential (EP), long term monitoring (LTM), polysomnography (PSG), nerve conduction studies (NCS), and intraoperative neuromonitoring (IONM).

The Technologist takes the medical history; documents the clinical condition of patients; understands and employs the optimal use of EEG, EP, PSG, and NCS equipment; and applies adequate recording electrodes. Among other duties, the Neurodiagnostic Technologist also understands the interface between EEG, EP, PSG, and NCS equipment and other electrophysiological devices and procedures; recognizes and understands EEG/EP/NCS/sleep activity displayed; manages medical emergencies in the laboratory; and prepares a descriptive report of recorded activity for the interpreting physician. The responsibilities of the Technologist may also include laboratory management and the supervision of Neurodiagnostic Technologists. Considerable individual initiative, reasoning skill, and sound judgment are all expected of the Neurodiagnostic professional. Neurodiagnostic Technology personnel work primarily in neurology-related departments of hospitals, but many also work in clinics and the private offices of neurologists and neurosurgeons.

In order to graduate from the Neurodiagnostic Technology (Associate of Applied Science) program, students must successfully complete the following curriculum:

## Program Delivery

The Neurodiagnostic Technology program is delivered in a blended format. Courses will be delivered entirely online, entirely on-ground or with an appropriate blend of both online and on-ground hours in the same course. Of the 1,855 program hours, a maximum of 980 course hours (52.8%) may be offered online (including general education courses). Campuses may have the option to deliver general education courses either online or on-ground depending on local need and availability specific time, regardless of their eligibility status upon enrollment.

# Program Objectives

Upon successful completion of the Neurodiagnostic Technology program, graduates will work with patients from neonate to geriatric and will be able to perform:

Electroencephalograms (EEGs), which record the electrical activity of the brain.

Polysomnograms (PSGs), which monitor and evaluate brain, respiratory, and heart activity during sleep to help diagnose sleep disorders.

During clinical rotations, students in the Neurodiagnostic Technology program may also be exposed to advanced diagnostic procedures, such as:

- Evoked potentials (EPs), such as Brainstem Auditory Evoked Potentials (BAEP), Visual Evoked Potentials (VEP), and Somatosensory Evoked Potentials (SSEP), which record electrical activity from the brain, brainstem, and spinal cord to evaluate various nerve tracks.
- Nerve Conduction Velocities (NCV), which evaluate electrical activity from peripheral nerves.
- Long-Term Epilepsy Monitoring (LTEM, LTM, or EMU), which records electrical activity and monitors patients to help diagnose significant seizure disorders.
- Intraoperative Neurological Monitoring (IONM), which monitors electrical activity from the brain, spinal column nerves, and muscles during various surgical procedures.

Upon completion of the program, graduates will be eligible to take professional certification examinations offered by:

- American Board of Registered Electroneurodiagnostic Technologists, Inc. (ABRET)
- American Association of Electrodiagnostic Technologists (AAET)
- Board of Registered Polysomnography Technologists (BRPT)

Credentialing in these specialties may require additional individualized training after graduation.

Registration and certification requirements for taking and passing these examinations are not controlled by Concorde, but by outside agencies, and are subject to change by the agency without notice. Therefore, Concorde cannot guarantee that graduates will be eligible to take these exams, at all or at any specific time, regardless of their eligibility status upon enrollment.

Course #	Course Title	Theory Hours (Ground/Online)	Lab Hours (Ground/Online)	Clinical Hours (Ground/Online)	Semester Credit Hours
BIOL1131	Anatomy & Physiology VLab	0	30 ( 0 / 30 )	0	1
BIOL1301	Anatomy & Physiology	45 ( 0 / 45 )	0	0	3
COMM1310	Elements of Human Communication	45 ( 0 / 45 )	0	0	3
CSCI1310	Computer Science	45 ( 0 / 45 )	0	0	3
ELEC1910	Introduction to Electrodiagnosis	120 ( 10 / 110 )	50 ( 50 / 0 )	0	9.5
ENGL1310	English Composition I	45 ( 0 / 45 )	0	0	3
MATH1320	College Algebra	45 ( 0 / 45 )	0	0	3
NDTP1100	Neuroanatomy and Physiology Lab	0	30 ( 30 / 0 )	0	1
NDTP1214	NDT Pattern Recognition	20 ( 0 / 20 )	30 ( 0 / 30 )	0	2
NDTP1215	Neuroanatomy and Physiology	30 ( 0 / 30 )			2
NDTP1400	Neurodiagnostics I	50 ( 10 / 40 )	50 ( 40 / 10 )	0	4.5
NDTP2214	Neurodiagnostics II	35 ( 0 / 35 )	20 ( 20 / 0 )	0	2.5
NDTP2312	NDT Capstone	45 ( 0 / 45 )	0	0	3
NDTP2335	NDT Clinical Experience I	0	0	160 ( 160 / 0 )	3.5
NDTP2336	NDT Clinical Experience II	0	0	160 ( 160 / 0 )	3.5

NDTP2611	NDT Advanced Procedures	100 ( 25 / 75 )	0	0	6.5
PHIL1310	Critical Thinking	45 ( 0 / 45 )	0	0	3
PSOM1217	Therapeutic Intervention	30 ( 10 / 20 )	20 ( 20 / 0 )	0	2.5
PSOM1230	PSG Pattern Recognition	30 ( 0 / 30 )	15 ( 0 / 15 )	0	2.5
PSOM1311	PSG Capstone	45 ( 10 / 35 )	0	0	3
PSOM1910	Polysomnography	120 ( 10 / 110 )	30 ( 30 / 0 )	0	9
PSOM2316	PSG Clinical Experience I	0	0	160 ( 160 / 0 )	3.5
PSOM2317	PSG Clinical Experience II	0	0	160 ( 160 / 0 )	3.5
PSYC1320	Human Growth & Development	45 ( 0 / 45 )	0	0	3
<b>Total</b>		<b>940 (75/865)</b>	<b>275 (190/85)</b>	<b>640 (640/0)</b>	<b>84</b>

\* These courses may be offered entirely online or entirely on-ground at the campus.