

# CLINICAL NEUROPHYSIOLOGY TECHNOLOGY (CNT)

Associate in Applied Science Degree Program  
An Affiliated Program with the Mayo School of Health Sciences

**I. Minnesota Transfer Curriculum General Education/Studies Requirements ..... 25 Credits**

**Goal 1: Written and Oral Communication (CM).....7 cr**

ENGL 1117\*, Reading & Writing Critically I, 4 cr  
SPCH 1114, Fundamentals of Public Speaking, 3 cr

**Goal 2: Critical Thinking (CT) MAY BE MET BY ANY COURSE IN MNTC 1-10 GOALS**

**Goal 3: Natural Sciences (NS).....12 cr**

CHEM 1101, Elements of Chemistry, 3 cr  
BIOL 1110, Human Biology, 4 cr  
BIOL 1216, Anatomy & Physiology of the Nervous & Respiratory Systems, 2 cr  
PHYS 1103, Principles of Physics, 3 cr

**Goal 5: History and the Social and Behavioral Sciences (SS).....3 cr**

PSYC 1611, Psychology of Adjustment, 3 cr OR PSYC 2618, General Psychology, 4 cr

**Goal 6: The Humanities – the Arts, Literature, and Philosophy (HA) .....3 cr**

PHIL 1125, Ethics, 3 cr

**\*Honors Equivalent Available**

**II. Mayo Clinic CNT Core Requirements ..... 56 Credits**

**Months 1-12** Mayo courses.

CNT 1101	Orientation to CNT	3 cr
CNT 1102	CNT Techniques EEG	2 cr
CNT 1103	CNT Techniques NCS	2 cr
CNT 1104	CNT Techniques EP	2 cr
CNT 1105	CNT Techniques Autonomic	2 cr
CNT 1106	CNT Techniques PSG	2 cr
CNT 1110	Instrumentation	2 cr
CNT 1112	Applied Concepts I	2 cr
CNT 1113	Applied Concepts II	2 cr
CNT 1114	Orientation to the Clinical Laboratory	2 cr
CNT 2210	Neurophysiology Lecture Series, Part I	1 cr
	TOTAL	22 cr

**Months 13-24**

CNT 2211	Neurophysiology Lecture Series, Part II	4 cr
CNT 2212	Clinical Practice EEG**	9 cr
CNT 2213	Clinical Practice NCS**	6 cr
CNT 2214	Clinical Practice EP/NCS**	3 cr
CNT 2215	Clinical Practice Autonomic**	3 cr
CNT 2216	Clinical Practice PSG**	6 cr
CNT 2217	Clinical Practice Elective	3 cr
	TOTAL	34 cr

**TOTAL..... 81 Credits**

**For Additional Information, Contact:**

Jan Buss, Mayo, Program Director at (507) 284-1255/e-mail: [buss.jan@mayo.edu](mailto:buss.jan@mayo.edu)

or

Nirmala Kotagal, PhD, RCTC, Program Advisor at (507) 280-2816/e-mail: [nirmala.kotagal@roch.edu](mailto:nirmala.kotagal@roch.edu)

## CLINICAL NEUROPHYSIOLOGY TECHNOLOGY COURSE SEQUENCE

LENGTH: 24 months

### Fall Semester, Year 1 (RCTC and Mayo)

BIOL 1110	Human Biology	4 cr
CHEM 1101	Elements of Chemistry	3 cr
PHIL 1125	Ethics	3 cr
PHYS 1103	Principles of Physics	3 cr
CNT 1101	Orientation to CNT	3 cr

**TOTAL** **16 cr**

### Spring Semester, Year 1 (RCTC and Mayo)

BIOL 1216	Anatomy & Physiology of the Nervous System,	2 cr
ENGL 1117	Reading & Writing Critically	14 cr
PSYC 1611	Psychology of Adjustment	3 cr
or PSYC 2618,	General Psychology	4 cr
SPCH 1114	Fundamentals of Speech	3 cr
CNT 1102	CNT Techniques EEG	2 cr
CNT 1103	CNT Techniques NCS	2 cr
CNT 1110	CNT Instrumentation	<u>2 cr</u>

**TOTAL** **18 cr**

### Summer Semester (Mayo)

CNT 1104	CNT Techniques EP	2 cr
CNT 1105	CNT Techniques Autonomic	2 cr
CNT 1106	CNT Techniques PSG	2 cr
CNT 1112	Applied Concepts I	2 cr
CNT 1113	Applied Concepts II	2 cr
CNT 1114	Orientation to the Clinical Laboratory	2 cr
CNT 2210	Neurophysiology Lecture Series, Part I	<u>1 cr</u>

**TOTAL** **13 cr**

### YEAR 2 These courses will be taken during the Fall, Spring, and Summer Semesters at Mayo Months 13-24

CNT 2211	Neurophysiology Lecture Series, Part II	4 cr
CNT 2212	Clinical Practice EEG**	9 cr
CNT 2213	Clinical Practices NCS**	6 cr
CNT 2214	Clinical Practice EP/NCS**	3 cr
CNT 2215	Clinical Practice Autonomic**	3 cr
CNT 2216	Clinical Practice PSG**	6 cr
CNT 2217	Clinical Practice Elective*	<u>3 cr</u>

**TOTAL** **34 cr**

\*\* Clinical Hours: 60 hours = 1 semester credit

### ADDITIONAL NOTES:

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**Purpose:** This program educates graduates to work under the supervision of physicians to perform tests that assist physicians in the diagnosis and evaluation of diseases of the brain, peripheral and autonomic nervous system and disorders of sleep and wakefulness. The technologist must be able to analyze data online making certain that it is viable and interpretable. Neurodiagnostic studies are performed in a laboratory, emergency room, operating room, intensive care unit, special monitoring units or at the patient's bedside.

The areas of study are electroencephalography, nerve conduction studies, polysomnography, autonomic testing and evoked potentials. Electroencephalography, spontaneous electrical activity of the brain recorded from the scalp, can determine changes in brain activity useful in diagnosing brain disorders. Nerve conduction studies, stimulus-induced responses recorded from peripheral nerves and muscles in the face, arms or legs, test to see how fast and how well the nerves send messages. Polysomnography, spontaneous activity recorded from the lungs, brain, muscle and heart, diagnosis and treats sleep-related disorders such as narcolepsy and sleep apnea. Autonomic testing measures involuntary nervous system function that controls blood pressure, heart rate, sweating and influence pain. Evoked potentials, stimulus induced responses from the sensory system, measures central nerve conduction time in disorders such as multiple sclerosis.

**Admission:** Students are admitted into the Clinical Neurophysiology Technology Program through the Mayo School of Health Sciences. The application for admission must be obtained from the Mayo School of Health Sciences and submitted no later than February 1. Following appointment to the program by the Mayo School of Health Sciences, students must apply to RCTC. Admission is competitive. It is based on previous education, work experience, goal statement, letters of reference, and interview. Science and math courses must be completed within the previous five years.

**Program Entrance Requirements:** (1) High School diploma or the equivalent; (2) High School keyboarding and basic computer competence, high school biology and chemistry are required, high school physics is recommended, or completion of the RCTC or college transfer equivalents; (3) High School algebra II or RCTC MATH 0099 or the equivalent; (4) graduation in the upper one-half of the high school graduating class with a 2.8 GPA or better. The science and math prerequisites must be taken within the past five years prior to application.

Proof of completion of a CPR course is required prior to beginning CNT 1114 and must be current through either the American Heart Association Cardiopulmonary Resuscitation & Emergency Cardiac Care for Health Care Provider or the Red Cross Basic Life Support Course.

**Registration and Sequence of Courses:** This is a 24-month program consisting of 81 credits. During the first two semesters at RCTC, students will take general education courses as well as CNT courses. After that time all the coursework is at the Mayo Medical Center. Course sequences are specified on the Degree Program Sheet.

**Program Completion:** Those who complete the program will be awarded a Certificate of Completion by Mayo and an Associate in Applied Science Degree by RCTC.

Implementation date: Spring 2008  
Revised: 02/27/2008  
Reviewed: 02/2008

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