

# NUCLEAR MEDICINE TECHNOLOGY, BS

Health care professions separate from nursing, medicine, and pharmacy provide a range of diagnostic, technical, therapeutic and direct patient care and support services that are critical to other health professionals they work with and the patients they serve.

The overall employment outlook for individuals with professional certifications varies, but is projected to be good to excellent by the U.S. Bureau of Labor Statistics. The BS degrees include Diagnostic Medical Sonography, Histotechnology, Medical Technology, Nuclear Medicine Technology, Radiation Therapy Technology, and Radiography. These areas involve completing required course work at Roosevelt University, followed by clinical training at the appropriate affiliate clinical site. A separate application to the clinical training program is required, and acceptance is not guaranteed. Roosevelt University offers five programs with clinical training at Northwestern Memorial Hospital, Chicago (Diagnostic Medical Sonography, Histotechnology, Nuclear Medicine Technology, Radiation Therapy Technology, and Radiography) and one program with clinical training at NorthShore Health Systems, Evanston (Medical Technology).

## Requirements

Courses taken for the major must be taken on a letter grade basis. A grade of C- is the minimal acceptable grade for a course to be applied to the major, or to be acceptable as a prerequisite for subsequent courses. A minimum cumulative GPA of 2.0 is required for all courses in the major. However, it is important to note that the clinical affiliates have their own GPA requirements and may not accept grades of C- for certain required prerequisite courses.

Each of the areas of study has its own prerequisite courses and requirements. These programs require students to complete all required course work before applying to the clinical affiliate. Students are not guaranteed admission into the clinical training portion of the degree. Students must make certain they are fully aware of each area's specific acceptance requirements. Students interested in these health care careers should seek early guidance from the health coordinator in the Department of Biological, Chemical and Physical Sciences.

## Standards

- AP biology credit with a score of 3.0 or higher may apply toward the major in biology or the general education requirements after consultation with an advisor.
- AP chemistry with a score of 4 or higher satisfies the requirements for CHEM 201 GENERAL CHEMISTRY I with lab.
- AP Physics I (2014 or later) with a score of 3.0 satisfies the requirement for PHYS 201 INTRODUCTION TO NON-CALCULUS BASED PHYSICS I with lab.
- AP Physics II (2014 or later) with a score of 3.0 satisfies the requirement for PHYS 202 INTRO TO NON-CALCULUS PHYSICS II with lab.
- AP Physics C: Mechanics with a score of 3.0 satisfies the requirement for PHYS 201 INTRODUCTION TO NON-CALCULUS BASED PHYSICS I with lab and PHYS 233 CALCULUS-BASED PHYSICS I DISCUSSION.

- AP Physics C: Electricity and Magnetism with a score of 3.0 satisfies the requirement for PHYS 202 INTRO TO NON-CALCULUS PHYSICS II with lab and PHYS 234 CALCULUS-BASED PHYSICS II DISCUSSION.

In addition, students must:

- Take a minimum of their last 30 credit hours at Roosevelt University; off-site clinical courses count toward this requirement.
- Take at least 20 credit hours in acceptable Biology, Chemistry, or Physics courses at Roosevelt University; not more than 15 credit hours of acceptable Biology courses may be transferred to Roosevelt University and applied toward the BS degrees.
- Once enrolled in the program, complete all remaining Biology, Chemistry, Physics, and Mathematics course requirements for these BS degrees at Roosevelt University. Under special circumstances, written permission to take required courses elsewhere may be granted by the health coordinator.
- Apply only courses in biology taken within the past eight years toward graduation.
- Limit to 4 credit hours the total of independent study hours (BIOL 395 INDEPENDENT STUDY/BCHM 395 INDEPENDENT STUDY/CHEM 395 INDEPENDENT STUDY/PHYS 395 INDEPENDENT STUDY) and independent research (BIOL 392 RESEARCH IN BIOLOGY/BCHM 392 RESEARCH IN BIOCHEMISTRY/CHEM 392 RESEARCH IN CHEMISTRY/PHYS 392 RESEARCH IN PHYSICS) used to fulfill the requirements of the major.

The Nuclear Medicine Technology program at Roosevelt University prepares students for the careers as part of a health care team. Nuclear medicine technologists are involved in direct patient care. Nuclear medicine provides unique information about the structure and function of virtually every major organ system within the body. It is the ability to characterize and quantify physiologic function at the molecular level that separates nuclear medicine from other imaging modalities. Nuclear medical technologists work with physicians to administer radioactive nuclides for the diagnosis of disease and to provide therapy. Most nuclear medicine technologists work in hospitals. Contact an advisor in the Department of Biological, Chemical, and Physical Sciences for details and advising as soon as possible. This is a 3+1 program in which the first three years of course work is completed at Roosevelt University and the final year completed at Northwestern Memorial Hospital.

## Admission

Admission to clinical training is at the discretion of Northwestern Medicine. Students are not guaranteed admission. The minimum GPA for application for this program is a 2.5 GPA overall and a 2.5 GPA in the per-requisite courses. Students in clinical training are registered through Roosevelt University and pay Roosevelt University tuition. There is no additional tuition charge for the clinical portion of the program. Nuclear medicine technologists holding a certificate from an accredited program may be eligible for advanced standing in the BS program and exemption from further clinical training.

## Prerequisites

Clinical courses listed below are subject to the satisfactory completion of pre-clinical course work and admission to a clinical program.

## Requirements

Nuclear Medicine Technology students complete 86 credit hours of academic course work including the University Writing Requirement and

the Arts and Sciences General Education requirements outlined below. Students must take their final 30 credit hours before clinical training at Roosevelt University. They complete their last 34 credit hours in a one-year, full-time, daytime clinical training program at Northwestern Memorial Hospital\*. Upon successful completion of the clinical program, students receive a Certificate in Nuclear Medicine Technology from the hospital and a BS in Nuclear Medicine Technology from Roosevelt University, and are eligible to sit for the Nuclear Medicine Technology Certification Boards examination.

\* Acceptance into the clinical training is not guaranteed and is at the discretion of the clinical site.

<b>Core</b>		
BIOL 123	ANATOMY & PHYSIOLOGY I (with lab)	4
BIOL 124	ANATOMY & PHYSIOLOGY II (with lab)	4
BIOL 202	ECOLOGY, EVOLUTION, AND GENETICS (with lab)	5
BIOL 301	CELLULAR & MOLECULAR BIOLOGY (with lab)	5
CHEM 201	GENERAL CHEMISTRY I (with lab)	5
CHEM 202	GENERAL CHEMISTRY II (with lab)	5
CHEM 211	ORGANIC CHEMISTRY I (with lab)	5
MATH 122	TRIGONOMETRY AND PRECALCULUS	3
MATH 217	ELEMENTARY STATISTICS	3
PHYS 201	INTRODUCTION TO NON-CALCULUS BASED PHYSICS I (with lab)	4
PHYS 202	INTRO TO NON-CALCULUS PHYSICS II (with lab)	4
CST 100	ESSENTIAL COMPUTER SKILLS	3
or CST 101	BEYOND PC ESSENTIALS	
<b>Clinical Courses in Nuclear Medicine Technology</b>		
ALH 340	MANAGEMENT AND METHODS OF PATIENT CARE I	3
ALH 344	DIAGNOSTIC NUCLEAR IMAGING CLINICAL PRACTICUM I	4
ALH 345	RADIATION SAFETY & PROTECTION	3
ALH 347	CLINICAL CORRELATION-PATHOLOGY	2
ALH 349	CLINICAL NUCLEAR IMAGING PROCEDURE	3
ALH 350	RADIATION PHYSICS & INSTRUMENTATION	3
ALH 302	MEDICAL TERMINOLOGY	1
ALH 341	RADIATION BIOLOGY	1
ALH 342	CLINICAL EDUCATION IV WITH SPECIALTIES	3
ALH 346	RADIONUCLIDE CHEM & RADIOPHARM	3
ALH 348	DIAGNOSTIC NUCLEAR IMAGING PRACTICUM II	4
ALH 370	COMPUTED TOMOGRAPHY AND CROSS-SECTIONAL ANATOMY	2
ALH 371	CLINICAL NUCLEAR MEDICINE PROCEDURES II	3
ALH 372	MANAGEMENT AND METHODS OF PATIENT CARE II	1
<b>General Education, University Writing Requirement, and Electives</b>		<b>37</b>

<b>Core Requirements</b>	50
<b>Clinical Requirements</b>	34
<b>Total credits for degree</b>	<b>121</b>

## General Education Requirements

Code	Title	Credit Hours
<b>Academic Communities of Practice</b>		
ACP 101	FIRST YEAR SEMINAR <sup>1</sup>	3
ACP 110	PRIMARY TEXTS	3
ACP 250	FOUNDATIONS FOR CHANGE	3
<b>English Composition</b> <sup>2</sup>		
ENG 101	COMPOSITION I: CRITICAL READING & WRITING	3
ENG 102	COMPOSITION II: INTRODUCTION TO ACADEMIC RESEARCH	3
<b>Humanities</b>		
Select 9 credits from the following subject areas: African-American Studies, Art History, English (excluding ENG 101 and ENG 102), History, Languages, Music, Philosophy, Theatre, Speech and Women's and Gender Studies		9
<b>Mathematics</b>		
MATH 110	QUANTITATIVE LITERACY (or above) <sup>3</sup>	3
<b>Non-Western requirement</b>		
Non-Western course (can be used for Humanities or Social Sciences general education requirements)		3
<b>RU mission-related course</b> <sup>2</sup>		
LIBS 201	WRITING SOCIAL JUSTICE	3
<b>Science</b>		
One biological science and one physical science required (at least one must be a four-hour lab (not applicable for science majors))		7-8
<b>Social Sciences</b>		
Select 9 credits from the following subject areas: African-American Studies, Anthropology, Economics, History, Journalism, Philosophy, Political Science, Psychology, Sociology and Women's and Gender Studies		9
<b>Total Credit Hours</b>		<b>49-50</b>

<sup>1</sup> Required for students who enter RU with fewer than 12 credit hours

<sup>2</sup> Minimum grade of C- required

<sup>3</sup> Math, Computer Science & Technology, and Science majors have different requirements—see advisor

These quantitative requirements also apply to degrees in the College of Arts and Sciences:

- Students may apply no more than 60 credit hours of 100-level courses toward the degree.
- Students must apply no fewer than 60 credit hours of 200- and 300-level courses toward the degree.
- Students must have at least 18 credit hours (of the 60 credit hours above) at the 300 level.
- Students may transfer in no more than 66 credit hours from community colleges.
- Students must take their final 30 hours at Roosevelt University. Note that some majors have additional requirements for RU hours.

- Students must have a grade point average of 2.0 or higher to graduate. Note that some majors have additional GPA requirements.
- Students must have a minimum of 90 hours in Arts and Sciences.
- Students may apply no more than 51 hours in the major (BA) or 57 hours in the major (BS)

- <sup>3</sup> Any course at the 300 level within the discipline.
- <sup>4</sup> This requirement can be fulfilled by other requirements.
- <sup>5</sup> One Natural Science course must have a lab.

Your degree map is a general guide suggesting courses to complete each term on the academic pathway to your degree. It is based on the most current scheduling information from your academic program. Your program's degree map is reviewed annually and updated as schedules change (although you retain the same course requirements as long as you are continuously enrolled in your degree program).

Always work closely with your academic advisor to understand curriculum requirements and scheduling, as each student's academic plan can look slightly different.

#### Year 1

Fall	Credit Hours Spring	Credit Hours
ACP 101	3 ACP 110	3
ENG 101	3 ENG 102	3
CHEM 201	5 CHEM 202	5
MATH 122	3 MATH 217	3
	14	14

#### Year 2

Fall	Credit Hours Spring	Credit Hours
LIBS 201 or ACP 250	3 LIBS 201 or ACP 250	3
CHEM 211	5 BIOL 124	4
BIOL 123	4 SPCH 101 (Humanities #1)	3
Social Science #1	3 Social Science #2	3
	15	13

#### Year 3

Fall	Credit Hours Spring	Credit Hours
BIOL 202	4 PHYS 202	4
PHYS 201	4 BIOL 301	5
Humanities #2	3 Humanities #3	3
Social Science #3	3 Non-Western Studies Course <sup>4</sup>	3
	14	15

#### Year 4

Fall	Credit Hours Spring	Credit Hours
ALH 340	3 ALH 302	1
ALH 344	4 ALH 341	1
ALH 345	3 ALH 342	3
ALH 347	2 ALH 346	3
ALH 349	3 ALH 348	4
ALH 350	3 ALH 370	2
	ALH 371	3
	ALH 372	1
	18	18

Total Credit Hours 121

<sup>1</sup> Or course towards an optional Minor.

<sup>2</sup> Any course at the 200 level within the discipline.