NUCLEAR MEDICINE TECHNOLOGY, BS

About Allied Health Majors

Allied Health professionals are highly skilled and sought after members of the health care team. Distinct from nursing, medicine and pharmacy, the allied health professions 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. 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 (https://clinicalschools.nm.org/)) and one program with clinical training at NorthShore Health Systems, Evanston (Medical Technology (https://www.northshore.org/academics/academic-programs/other-programs/medical-technology/)).

These Bachelor of Science degrees involve completing required pre-requisite course work at Roosevelt University, followed by clinical training at the appropriate affiliate site (either Northwestern Hospital or NorthShore Health Systems, see above).

Admission to the clinical portion of the program is at the discretion of the affiliate site. A separate application to the clinical portion of the program is required, and acceptance is not guaranteed.

- Each of the six areas of study has its own prerequisite courses and GPA requirements and students are responsible for being fully aware of each affiliate's specific acceptance requirements for clinical study. Programs require that all pre-requisite courses are completed before applying to the clinical affiliate.
- Students in clinical training are registered through Roosevelt University and pay Roosevelt University tuition.
- Students interested in these allied health careers should seek early guidance from an advisor in the Department of Biological, Physical, and Health Sciences.

About Nuclear Medicine

The Nuclear Medicine Technology program at Roosevelt University prepares students for careers as part of a health care team. Nuclear medicine technologists are involved in direct patient care. Nuclear medicine uniquely provides information about the structure and function of virtually every major organ system within the body. It is this ability to characterize and quantify physiologic function at the molecular level, which separates nuclear medicine from other imaging modalities. With the development of new radiopharmaceuticals, treatments and the exciting technology of PET/MRI, PET/CT and SPECT/CT hybrid imaging, the nuclear medicine field has grown significantly over the past years and is expected to grow even more in the future.

Nuclear medical technologists work with physicians to administer radioactive nuclides to diagnose disease and provide therapy. Most nuclear medicine technologists work in hospitals. Students interested in allied health careers should seek early guidance from an advisor in the Department of Biological, Chemical, and Physical Sciences.

This is a **3+1 program** in which the first three years of course work is completed at Roosevelt University with the final year completed at the clinical affiliate site, Northwestern Memorial (NM) Hospital Chicago. The clinical portion is 13 months (53 instructional weeks) and provides students with a comprehensive body of knowledge and a clinical education that includes didactic instruction, laboratory applications, and clinical experience in new radiopharmaceuticals, treatments and the exciting technology of PET/MRI, PET/CT and SPECT/CT hybrid imaging.

Upon successful completion of the clinical program, students are awarded a certificate of program completion for Nuclear Medicine from the NM hospital and will be eligible to be certified through examination by the Nuclear Medicine Technology Certification Board (NMTCB) (http://www.nmtcb.org/) or the American Registry of Radiologic Technologists (ARRT) (http://arrt.org/). Students will be eligible to take the following examinations for certification:

- Nuclear Medicine Technology Certification Board (NMTCB)
- Nuclear Medicine Technology Certification Board (NMTCB, CT)
- American Registry of Radiologic Technologists (ARRT)

Standards

At Roosevelt University, a grade of C- is the minimal acceptable grade for a course to be applied to this major or to be accepted as a prerequisite for subsequent courses; however, **the minimum GPA for application to the Nuclear Medicine clinical program is a 2.7 and a C grade in the following clinical prerequisite courses:**

- Human Anatomy & Physiology I with lab *
- Human Anatomy & Physiology II with lab *
- College Algebra or higher *
- Statistics *
- General Physics I *
- General Physics II *
- General Chemistry I with lab *
- General Chemistry II with lab *
- Written Communication

Courses marked with * must have been taken within seven years from the date of application.

Roosevelt University requires a minimum cumulative GPA of 2.0 or higher for graduation at the undergraduate level. Note that some majors have additional GPA requirements.

All applicants whose native language is not English must submit official TOEFL test scores (https://clinicalschools.nm.org/uploads/1/1/2/0/112045435/nm_clinical_schools_toefl_policy_rev_9.21.21.pdf) by the application deadline to Northwestern Memorial Hospital. Clinical course enrollment is subject to the satisfactory completion of pre-clinical course work and admission to the clinical program. Please consult the Northwestern Medicine Clinical Schools website (https://clinicalschools.nm.org/) for specific information in regards to application and admission.

Requirements

Nuclear Medicine Technology students complete 86 credit hours of academic course work, including the College of Science, Health and Pharmacy general education requirements, in addition to the Nuclear Medicine Technology core courses outlined below. Students complete their last 36 credit hours in a one-year, full-time, daytime clinical training program at Northwestern Memorial Hospital*.

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 or Physics C: Mechanics with a score of 3.0 satisfies the requirement for PHYS 201 INTRODUCTION TO NON-CALCULUS BASED PHYSICS I with lab.
- AP Physics II or 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.

In addition, students must:

- Students must take a minimum of their last 30 credit hours at Roosevelt University or complete a minimum of 60 hours in-residence at Roosevelt University excluding the number hours in the exception request; off-site clinical courses count toward this requirement.
- Take at least 20 credit hours in acceptable Biology, Chemistry, or Physics courses at Roosevelt University; minimum 15 credit hours of Biology courses must be completed at Roosevelt University.
- Transfer students need to complete a minimum of 2 semesters of full-time studies at Roosevelt University to be eligible for affiliate benefits.
- Once enrolled in the program, complete all remaining Biology, Chemistry, Physics, and Mathematics course requirements for this BS degree at Roosevelt University. Under special circumstances, written permission to take required courses elsewhere may be granted by the program director.
- 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) and independent research (BIOL 392 RESEARCH IN BIOLOGY/BCHM 392 RESEARCH IN BIOCHEMISTRY/CHEM 392 RESEARCH IN CHEMISTRY) used to fulfill the requirements of the major.

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

Code	Title	Credit Hours
Core		
BIOL 118	CAREERS IN HEALTH SCIENCES	1
BIOL 123	ANATOMY &PHYSIOLOGY I	1,3
BIOL 124	ANATOMY &PHYSIOLOGY II	1,3
BIOL 202	ECOLOGY, EVOLUTION, AND GENETICS	2,3
BIOL 301	CELLULAR &MOLECULAR BIOLOGY	2,3
CHEM 201	GENERAL CHEMISTRY I	2,3
CHEM 202	GENERAL CHEMISTRY II	2,3
CHEM 210	SURVEY OF ORGANIC CHEMISTRY	2,3
MATH 121	COLLEGE ALGEBRA	3
MATH 122	TRIGONOMETRY AND PRECALCULUS	3
MATH 217	ELEMENTARY STATISTICS	3
PHYS 201	PHYSICS I	5
PHYS 202	PHYSICS II	5
Clinical Courses in Nuclear Medicine Technology		
ALH 302	MEDICAL TERMINOLOGY	1
ALH 340	MANAGEMENT AND METHODS OF PATIENT CARE	3
ALH 341	RADIATION BIOLOGY	1
ALH 342	RADIATION DETECTION AND INSTRUMENTATION	3
ALH 344	DIAGNOSTIC NUCLEAR IMAGING CLINICAL PRACTICUM I	4
ALH 345	RADIATION SAFETY & PROTECTION	2
ALH 346	RADIONUCLIDE CHEM & RADIOPHARM	3
ALH 347	CLINICAL CORRELATION-PATHOLOGY	2
ALH 348	DIAGNOSTIC NUCLEAR IMAGING PRACTICUM II	4
ALH 349	CLINICL NUCLEAR MEDICINE PROCEDURES I	3
ALH 350	RADIATION PHYSICS & INSTRUMENTATION	3
ALH 370	COMPUTED TOMOGRAPHY AND CROSS-SECTIONAL ANATOMY	2
ALH 371	CLINICAL NUCLEAR MEDICINE PROCEDURES II	3
ALH 372	NUCLEAR MEDICINE SEMIMAR	1
General Education, University Writing Requirement, and Electives		**36**
Core Requirements		**50**
Clinical Requirements		**36**
Total Credits for Degree		**122**

CORE Requirements (General Education)

Code	Title	Credit Hours
First Year Success Course or Transfer Success Course		
FYS 101	FIRST YEAR SUCCESS COURSE	1
or TRS 101	TRANSFER SUCCESS 101	
Communication Requirement		
ENG 101	COMPOSITION I: CRITICAL READING & WRITING	3
ENG 102	COMPOSITION II: INTRODUCTION TO ACADEMIC RESEARCH	3
COMM 101	PUBLIC SPEAKING (or program specific CORE communications course)	3
Ideas of Social Justice		
3 credits in coursework categorized as Ideas.		3
Humanities and Fine and Performing Arts [2, 3]		
9 credits from the following subject areas: African-American Studies, Art History, English (excluding ENG 101 and ENG 102), History, Languages, Music, Philosophy, Theatre, Communication and Women's and Gender Studies		9
Mathematics		
MATH 110	QUANTITATIVE LITERACY (or above) [1]	3
Science		
One biological science and one physical science required (one must include a one credit lab).		7-8
Social Sciences [2,3, 4]		

9 credits from the following subject areas: African-American Studies, Criminal Justice, Economics, History, Journalism, Philosophy, Political Science, Psychology, Sociology and Women's and Gender Studies	9
Experiential Learning	
6 credits from coursework categorized as Experiential Learning.	6
Total Credit Hours	**47-48**

1 Higher level of Math may be required by major
2 Coursework must come from outside of students' major discipline
3 A maximum of 9 credits can be applied from a single discipline towards humanities and social science requirements
4 Digital Advertising and Public Relations Majors must complete COMM 110 with a grade of C or higher. This course can fulfill one Social Science requirement.

These quantitative requirements also apply to degrees.

- Students must earn a minimum of 120 semester hours.
- 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 70 credit hours from community colleges.
- Students earning less than 60 total hours in residence 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 may apply no more than 51 hours in the major (BA) or 57 hours in the major (BS)

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
FYS 101	1	ENG 102	3
ENG 101	3	MATH 122	3
BIOL 118**	1	CHEM 202	5
MATH 121	3	Ideas of Social Justice	3
CHEM 201	5		
Humanities #1	3		
	16		**14**

Year 2

Fall	Credit Hours	Spring	Credit Hours
BIOL 123	4	BIOL 124	4
CHEM 210 or 211	5	MATH 217	3
Social Science #1	3	COMM 101	3
Humanities #2	3	Social Science #2	3
	15		**13**

Year 3

Fall	Credit Hours	Spring	Credit Hours
BIOL 202	4	BIOL 301 (Experiential Learning #1)[2]	5
PHYS 201	5	PHYS 202	5
Humanities #3	3	General Elective[1]	1
Social Science #3	3		
	15		**11**

Year 4

Fall	Credit Hours	Spring	Credit Hours
ALH 340	3	ALH 302	1
ALH 344	4	ALH 341	1
ALH 345	2	ALH 342	3
ALH 347	2	ALH 346	3
ALH 349	4	ALH 348 (Experiential Learning #2)[2]	4
ALH 350	3	ALH 370	2
		ALH 371	3
		ALH 372	1
	18		**18**

Total Credit Hours 120

1 Or course towards an optional Minor.
2 Experiential Learning class must be 200/300 level. Satisfies CORE Experiential Learning requirement. EXL courses can satisfy major requirements/electives or CORE requirement.
* Must be accepted to clinical school for clinical training courses. Not guaranteed.
** Complete within the 1st semester of joining the program.