

BACHELOR OF SCIENCE IN NUCLEAR MEDICINE TECHNOLOGY

OVERVIEW

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. Nuclear medicine offers procedures that are essential in many medical specialties, from pediatrics to cardiology to psychiatry. With the development of new radiopharmaceuticals, cancer-detecting and cancer-killing agents, and the exciting technology of Positron Emission Tomography/CT (PET/CT) and SPECT/CT hybrid imaging, which provides new and unique means of studying biochemistry and metabolism within living tissues, the nuclear medicine field has grown significantly over the past years and is expected to grow even more in the future.

CONTACT

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PROGRAM OPTIONS

Students may elect to enter the four-year program for the B.S. in Nuclear Medicine Technology in which the first three years of classes would be at Lewis University with the fourth and final year of classes at Northwestern Memorial Hospital (NMH) or the College of DuPage (COD). Admission to the final year of the program is based upon successful application to the program at NMH or COD in the second semester of the junior year. Student applicants are considered and evaluated solely by the faculty and staff at NMH and COD. Student admission to the NMH and/or COD program is not guaranteed. Another option is for students to complete the normal four-year B.S. in Biology and then apply for admission to Northwestern Memorial Hospital or the College of DuPage for a one-year certificate program in Nuclear Medicine Technology.

Students may also double major in Biology and Nuclear Medicine Technology. This would take five years with the first four years spent taking classes at Lewis University and the last year at Northwestern Memorial Hospital or the College of DuPage. Students would apply for the NMT program in the spring of their fourth year with the understanding that Northwestern Memorial Hospital and/or the College of DuPage determines acceptance into this program.

CAREER OPPORTUNITIES

- According to the U.S. Department of Labor, NMTs can expect to see an employment increase between 21 percent and 35 percent through the year 2012.
- More job growth will occur due to technological advances in medicine and the personnel needed to operate new equipment.
- As the 78 million baby boomers approach 65, the demands on hospitals and their staffing needs, particularly, is going to rise dramatically.
- New NMTs have their pick of positions and salaries can range anywhere from \$25 to \$45/hour depending upon the institution and its geographic location.

ADDITIONAL WEB SITES FOR FURTHER INFORMATION

American Board of Nuclear Medicine - www.abnm.org

American Healthcare Radiology Administrators
www.ahraonline.org

International Society for Magnetic Resonance in Medicine
www.ismrm.org

Lewis University - www.lewisu.edu

Society of Nuclear Medicine - <http://interactive.snm.org>

BACHELOR OF SCIENCE / NUCLEAR MEDICINE TECHNOLOGY

A grade of C or better must be earned in a prerequisite course in order to advance to the next course in sequence.

It is the policy of Biology department to support with letters of recommendation for the professional school applications only those students who have achieved a cumulative and science GPA of 3.25 by the time they complete 02-355 Biochemistry I and have no withdrawals in their records. In the event that a student has his/her request for letters of recommendation denied, he/she has the right to petition for reconsideration with the understanding that there is no guarantee that the petition will be successful. Acceptance into any professional school is solely determined by the admission committee of that school. All faculty members have the right to decline a request to write a letter of recommendation for any student.

Nuclear Medicine Technology majors may take a Biology class only two times. If a student has not achieved a minimum grade of a "C" after the second attempt, the student may not repeat the class.

Students are required to shadow, observe a NMT, for a day at Northwestern Memorial Hospital or the College of DuPage or show proof of such activity at another medical facility before applying to the program.

The Biology Department will award 3 hours of credit for our general education class 02-100 (Introduction to Biology) when students have received a score of 4 or 5 on AP tests. We do not award any credit for major classes based on AP scores.

Total Credit Hours:	139-141
Major Credit Hours:	96-98

I. Core Courses (62)

- 02-110 General Biology I (4)
 - 02-111 General Biology I Lab (1)
 - 03-110 General Chemistry I (4)
 - 03-111 General Chemistry I Lab (1)
 - 02-115 General Biology II (4)
 - 02-116 General Biology II Lab (1)
 - 03-115 General Chemistry II (4)
 - 03-116 General Chemistry II Lab (1)
 - 13-200 Calculus I (4)
- OR

- 13-211 Calculus for the Life Sciences (4)
- 02-220 Genetics (4)
- 02-221 Genetics Lab (1)
- 02-224 Microbiology (4)
- 02-226 Microbiology Lab (1)
- 03-220 Organic Chemistry I (4)
- 03-221 Organic Chemistry I Lab (1)
- 03-225 Organic Chemistry II (4)
- 03-226 Organic Chemistry II Lab (1)
- 02-355 Biochemistry I- Molecular Biochemistry with Clinical Correlates (3)
- 02-356 Biochemistry I Lab (1)
- 02-426 Immunology (3)
- 17-200 College Physics I (4)
- 17-201 College Physics I Lab (1)
- 02-335 Advanced Clinical Physiology (3)
- 02-336 Case Studies in Human Physiology (1)
- 02-480 Department Pillars Portfolio (0)
- 02-494 Research Methods in Allied Health (2)

II. Students complete the program at one of two sites.

A. Northwestern Memorial Hospital Curriculum (33)

- 02-340 Management and Methods of Patient Care I (2)
- 02-342 Radiation Safety and Protection (2)
- 02-344 Nuclear Physics and Instrumentation (2)
- 02-346 Diagnostic Nuclear Imaging Practicum I (4)
- 02-348 Clinical Nuclear Imaging Procedures I (2)
- 02-354 Computer Applications (2)
- 02-360 Radiation Detection and Protection (2)
- 02-440 Management and Methods of Patient Care II (2)
- 02-446 Diagnostic Nuclear Imaging Practicum II (4)
- 02-448 Clinical Nuclear Imaging Procedures II (2)
- 02-449 Quality Control (2)
- 02-450 Radionuclide Chemistry and Radiopharmacy (2)
- 02-452 Radiation Biology (2)
- 02-456 Clinical Correlation (2)
- 02-460 Applied Basic Mathematics (1)

OR

B. College of DuPage Curriculum (35)

- 07-300 Basics of Nuclear Medicine (3)
- 07-303 Physics and Instrumentation in Nuclear Medicine (5)
- 07-304 Nuclear Medicine Radiopharmacy (4)
- 07-306 Radiation Biology and Radiation Safety (2)

- 07-307 Clinical Nuclear Medicine I (3)
- 07-400 Nuclear Medicine Procedures II (5)
- 07-403 Nuclear Medicine Procedures III (3)
- 07-410 Clinical Nuclear Medicine II (3)
- 07-411 Clinical Nuclear Medicine III (3)
- 07-442 PET: Positron Emission Tomography (3)
- 07-454 Nuclear Medicine Review Seminar (1)

III. Select one of the following: (1)

- 02-380 Biochemistry Journal Club (1)
- 02-381 Physiology Journal Club (1)
- 02-382 Microbiology Journal Club (1)
- 02-384 Genetics Journal Club (1)

IV. General Education Credits (43)

- V. The advanced writing requirement of the General Education curriculum is satisfied by the successful completion of the following courses that contain strong writing components: 02-111; 02-116 General Biology Labs I and II; 02-226 Microbiology Lab; and 02-494 Research Methods.**

PARADIGM FOR B.S. IN NUCLEAR MEDICINE TECHNOLOGY

FRESHMAN YEAR

First Semester (18 hours)

General Biology I (4) and Lab (1)
General Chemistry I (4) and Lab (1)
Math Analysis or Calculus I (4)
Gen Ed (3)
Introduction to College Experience (1)

Second Semester (16 hours)

General Biology II (4) and Lab (1)
General Chemistry II (4) and Lab (1)
Calculus I or Gen Ed (3)
Gen Ed (3)

SOPHOMORE YEAR

First Semester (16 hours)

Genetics (4) and Lab (1)
Organic Chemistry I (4) and Lab (1)
Gen Ed (3)
Gen Ed (3)

Second Semester (17 hours)

Microbiology (4) and Lab (1)
Organic Chemistry II (4) and Lab (1)
Journal Club (1)
Gen Ed (3)
Gen Ed (3)

JUNIOR YEAR

First Semester (18 hours)

Biochemistry I (3) and Lab (1)
Physics I (3) and Lab (1)
Gen Ed (3)
Gen Ed (3)
Gen Ed (3)

Second Semester (18 hours)

Advanced Human Anatomy and Physiology (3)
Case Studies (1)
Immunology (3)
Gen Ed (3)
Gen Ed (3)
Gen Ed (3)
Research Methods in Allied Health (2)

SENIOR YEAR

Clinical courses will be offered at Northwestern Memorial Hospital.

**This paradigm requires that students take one (1) general education requirement during a summer session.*