Nuclear Medicine Technology

Director

- Jay J. Smith

Director, Medical

- Yusuf Menda

Director, Technical

- Daniel Petersen

Undergraduate major: nuclear medicine technology (BS)

Website: https://medicine.uiowa.edu/radsci/programs/nuclear-medicine-technology

Nuclear medicine technologists are professionals in a medical specialty that uses radioactive tracers for diagnostic, therapeutic, and research purposes. Technologists generally are employed in hospitals and clinics. They work hand in hand with nuclear medicine physicians, health physicists, radiopharmacists, and radiochemists as an integral part of a highly trained specialty team.

In addition to using sophisticated detectors and computers to trace the movement and localization of radioactive tracers in the human body, nuclear medicine technologists have responsibilities that include radiation safety, quality control testing, radiopharmaceutical preparation and administration, and general patient care.

The Nuclear Medicine Technology Program is fully accredited by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology (JRCNMT). Nuclear medicine technology is one of two undergraduate majors in the field of medical imaging offered by the Carver College of Medicine; see Radiation Sciences in the catalog.

The Carver College of Medicine is located on the University of Iowa health sciences campus, which includes University of Iowa Hospitals & Clinics, one of the nation's largest university-owned teaching hospitals. For information about the college's academic programs and resources, see Carver College of Medicine in the catalog.

Programs

Undergraduate Program of Study

Major

- Major in Nuclear Medicine Technology (Bachelor of Science)

Courses

Nuclear Medicine Technology Courses

RSNM:3120 Fundamentals of Nuclear Medicine and PET **3 s.h.**
Introduction to medical specialty of nuclear medicine and molecular imaging; basic theories of radiation protection, radiation physics and nuclear medicine instrumentation, radiopharmacy, nuclear medicine and positron emission tomography (PET) clinical procedures, professional standards of nuclear medicine technologist. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:3121 Nuclear Medicine Technology Clinical Internship I **3 s.h.**
Hands-on clinical experience working with patients and performing routine nuclear medicine diagnostic imaging procedures under direct supervision of qualified clinical instructors. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:3131 Radiopharmaceuticals **3 s.h.**
Introduction to radiopharmaceuticals; emphasis on physical, chemical, and biologic properties and their clinical use; fundamental aspects of radiopharmaceuticals including characteristics, preparation, quality control, and clinical use. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:3220 Nuclear Medicine and PET Clinical Procedures **3 s.h.**
Proper execution of nuclear medicine and PET procedures from a technical point of view; published protocols and procedures specific to University of Iowa Hospitals & Clinics; routine set up, common errors, artifact identification, computer processing protocols, and patient care concerns identified for each procedure; review of human anatomy, physiology, and pathology germane to understanding and proper execution of nuclear medicine procedures. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:3221 Nuclear Medicine Technology Clinical Internship II **3 s.h.**
Progressive responsibility working with patients and performing nuclear medicine and PET clinical procedures under direct supervision of qualified clinical instructors. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:3231 Nuclear Medicine Instrumentation **3 s.h.**
Instruments used in medical imaging to generate and detect ionizing radiation (i.e., SPECT/CT and PET/CT scanners, dose calibrators, well counters, survey meters); focus on instrument quality control testing. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:3321 Nuclear Medicine Technology Clinical Internship III **6 s.h.**
Progressive responsibility working with patients and performing nuclear medicine and PET clinical procedures under direct supervision of qualified clinical instructors. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:4121 Nuclear Medicine Technology Clinical Internship IV **4 s.h.**
Progressive responsibility working with patients and performing nuclear medicine and PET clinical procedures under direct supervision of qualified clinical instructors. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:4221 Nuclear Medicine Technology Clinical Internship V **4 s.h.**
Progressive responsibility working with patients and performing nuclear medicine and PET clinical procedures under direct supervision of qualified clinical instructors. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:4222 Nuclear Medicine Technology Capstone and Certification Exam Preparation **6 s.h.**
Students in final semester of program work together to organize and deliver capstone and certification exam preparation course; review of specific topics and oral presentations by each student; preparation and distribution of detailed written outlines of exam content; series of content-specific quizzes, midterm, and final "Mock Board" exam to evaluate student learning and preparedness for taking the NMTCB and ARRT national certification exams; preparation and submission of capstone portfolios that provide evidence of scholarly and professional progress. Requirements: Nuclear Medicine Technology Program enrollment.