

Nuclear Medicine Technology

NMTEC 199

Introduction to Nuclear Medicine Technology • 2.0 Credits

This course introduces the student to the Bellevue College Nuclear Medicine Technology program. It includes three days of clinical orientation in a nuclear medicine department. We'll create a shared understanding of the basics of nuclear medicine practice, examine active learning techniques, and develop cohesiveness as a group.

NMTEC 200

Applied Anatomy & Physiology • 1.0 Credit

Studies human anatomy and physiology as they apply to nuclear medicine imaging. Specific organ systems covered include skeletal, circulatory, cardiac, pulmonary, gastrointestinal, immune, excretory, endocrine, and central nervous systems.

NMTEC 201

Basic Nuclear Medicine Science • 3.0 Credits

Presents basic science required for nuclear medicine. Topics include types of radiation, half-life and radioactive decay, interactions of radiation, detection instruments, statistics of radiation counting, basic radiation protection, and introduction to imaging process.

NMTEC 202

Instrumentation • 2.0 Credits

Examines the function and use of the nuclear medicine gamma camera. Topics include basic electronics, collimators, digital cameras, online correction systems, and modifications required for tomographic studies. Students learn quality control and troubleshooting.

NMTEC 203

Computers In Nuclear Medicine • 3.0 Credits

Introduces the use of computers in nuclear medicine, emphasizing analysis of static, dynamic, and tomographic images.

NMTEC 210

Radiopharmacy • 1.0 Credit

Studies all commonly used nuclear medicine pharmaceuticals, their preparation, indications for use, dosages, and contraindications. P

NMTEC 211

Nursing Procedures • 1.0 Credit

Presents nursing procedures relating to nuclear medicine. Topics include patient assessment, oxygen administration, infection control, intravenous drug administration, vasovagal and anaphylactic reactions, basic pharmacology, sedation, medical and legal issues, cardiac physiology, and electrocardiography.

NMTEC 212

Position Emission Tomography • 2.0 Credits

Covers all aspects of positron emission tomography (PET), including basic principles, instrumentation, PET/CT imaging and quality control, quantitation of radiopharmaceutical uptake, clinical indications for PET imaging, biochemistry of fluorodeoxyglucose (FDG), clinical aspects of FDG imaging, new PET radiopharmaceuticals, and issues relating to reimbursement for PET scans.

NMTEC 229

Introduction to Clinical Education • 3.0 Credits

Provides an introduction to the practice of nuclear medicine with an emphasis on the operation of a gamma camera, basic radiopharmacy and radiation safety principles, and patient care procedures.

NMTEC 230

Clinical Education I • 10.0 Credits

First in a five-course sequence of supervised clinical instruction in nuclear medicine technology. Topics including imaging, patient care, radiopharmacy, camera quality control, and computer analysis. Students are expected to gain proficiency according to defined objectives.

NMTEC 231

Clinical Education II • 10.0 Credits

Second in a five-course sequence of supervised clinical instruction in nuclear medicine technology. Topics include imaging, patient care, radiopharmacy, camera quality control, and computer analysis. Students are expected to gain proficiency according to defined objectives.

NMTEC 232

Clinical Education III • 10.0 Credits

Third in a five-course sequence of supervised clinical instruction in nuclear medicine technology. Topics include imaging, patient care, radiopharmacy, camera quality control, and computer analysis. Students are expected to gain proficiency according to defined objectives.

NMTEC 233

Clinical Education IV • 13.0 Credits

Fourth in a five-course sequence of supervised clinical instruction in nuclear medicine technology. Topics include imaging, patient care, radiopharmacy, camera quality control, and computer analysis. Students are expected to gain proficiency according to defined objectives.

NMTEC 234

Clinical Education V • 13.0 Credits

Fifth in a five-course sequence of supervised clinical instruction in nuclear medicine technology. Topics include radiopharmacy, positron emission tomography, nuclear cardiology, and pediatrics.

NMTEC 240

Radiation Safety • 1.0 Credit

Covers principles and practices for radiation safety. Topics include calculation of doses absorbed from procedures, personnel monitoring, handling and disposal of radioactive materials, and licensing of a nuclear medicine department.

NMTEC 241

Radiation Biology • 1.0 Credit

Discusses the potentially harmful effects of radiation on humans. Topics include the basic chemistry of radiation interactions in living cells, the effects of extensive radiation exposure, and the potential long-term effects of accumulated radiation damage.

NMTEC 250

Sectional Anatomy for Nuclear Medicine • 3.0 Credits

Presents sectional anatomy of the body, including a brief introduction to the following imaging modalities: CT, MRI, angiography, and ultrasound. Main emphasis is on identifying organs of the head, neck, chest, abdomen, and pelvis on CT and MR images.

NMTEC 260

Clinical Nuclear Medicine I • 1.0 Credit

Presents nuclear medicine from the technologist's standpoint, emphasizing the technical aspects and pitfalls of nuclear medicine procedures. NMTEC 260 lectures are coordinated with NMTEC 200.

Nuclear Medicine Technology

NMTEC 261

Clinical Nuclear Medicine II • 1.0 Credit

Presents nuclear medicine from the physician's standpoint, emphasizing the diagnosis of disease and ways in which the technologist can assist the physician making a correct diagnosis.

NMTEC 262

Clinical Nuclear Medicine III • 1.0 Credit

Discusses advanced topics related to imaging and non-imaging procedures. Topics include hematology and immunology, laboratory techniques in nuclear medicine, Schilling test, H. pylori breath testing, blood volume determination, bone densitometry, radioimmunotherapy, and advanced nuclear neurology.

NMTEC 275

Board Preparation • 1.0 Credit

Prepares students for the NMTCB exam by reviewing all aspects of nuclear medicine technology and giving practice tests. Students focus on practical application of the basic science knowledge gained throughout the program. Students also complete a capstone project.

NMTEC 280

Ct for The Nuclear Medicine Technologist • 3.0 Credits

Provides didactic instruction in CT scanning, as is pertinent to its application to nuclear medicine procedures. Includes information pertaining to production and detection of X-rays in CT, instrumentation and image reconstruction, specific technique applications, patient care, and quality control.