



Course Description

NMT2932C | Nuclear Medicine Seminar | 3.00 credits

The student will learn to incorporate all theory related to the production of a nuclear medicine image. The student will also learn about radiation protection, instrumentation, physics, pharmacology, and Quality Assurance/Quality Control. Prerequisites: NMT2733C, NMT2779C, and NMT2824C; Corequisite: NMT2834C

Course Competencies:

Competency 1: The student will demonstrate an understanding of basic radiation protection by:

1. Listing and describing the need for patient and personnel protection
2. Discussing the need for area/facilities monitoring
3. Discussing the importance of proper handling of radioactive materials

Competency 2: The student will demonstrate knowledge of radionuclides and radiopharmaceuticals by:

1. Discussing the physical properties of radioactive materials
2. Discussing the characteristics of Radiopharmaceuticals
3. Listing the appropriate steps for the preparation and administration of radiopharmaceuticals

Competency 3: The student will demonstrate knowledge of instrumentation and quality control

1. Applying the various techniques used in instrumentation and quality control:
 - a. Survey Meter
 - b. Dose Calibrator
 - c. Scintillation Detector System
 - d. Gamma Camera
 - e. PET Scanner
 - f. Gas and Aerosol Delivery Systems
 - g. Image Acquisition
 - h. Data Processing

Competency 4: The student will demonstrate knowledge of diagnostic and therapeutic procedures by:

1. Listing the steps in patient positioning
2. Describing the factors affecting image quality
3. Analyzing the various procedures for specific diagnostic and therapeutic procedures

Competency 5: The student will demonstrate knowledge of patient care and education by:

1. Discussing the importance of ethical and legal aspects of patient care
2. Describing various principles of interpersonal communication
3. Describing various techniques of maintaining infection control
4. Describing principles and methods of physical assistance and transfers of patients
5. Describing and recognizing medical emergencies

Learning Outcomes:

- Solve problems using critical and creative thinking and scientific reasoning
- Demonstrate knowledge of ethical thinking and its application to issues in society