SECTION HEADING

RADT 2220: Radiological Equipment

Description

Radiological Equipment provides the student with a basic understanding of radiation physics including the structure of matter, electromagnetic energy, electricity, magnetism, electromagnetism, x-ray emission and x-ray production. This course is designed to establish a strong understanding of radiographic equipment including the x-ray tube, x-ray circuit, fluoroscopy, and computed tomography. The content will also provide a basic knowledge of quality control.

Credits

4

Prerequisite

None

Corequisite

None

Topics to be Covered

1. Electromagnetism

2. X-ray Circuit

3. X-ray Tube

4. AEC

5. Computed Tomography

6. Fluoroscopy

Learning Outcomes

1. Define potential difference, current and resistance.

2. Describe the characteristics of direct and alternating currents.

3. Identify the general components and function of the primary, secondary and filament circuits.

4. Discuss the application of automatic exposure control (AEC) devices.

5. Explain image-intensified fluoroscopy.

6. Discuss the proper test equipment/procedures for evaluating the operation and maintenance of the imaging equipment.

7. Discuss the instrumentation, operations, and physics of computed tomography.

8. Identify factors that influence image quality in computed tomography.

9. Provide an understanding of imaging procedures in computed tomography.

10. Discuss patient care, safety, and radiation dose reduction practices in computed tomography.

Credit Details

Lecture: 3

Lab: 1

OJT: 0

MnTC Goal Area(s): None