Miami Dade College

Course Description

RAT1615 | Radiation Therapy Medical Imaging | 3.00 credits

This course is an introductory study to radiographic processes which includes the processes behind computed tomography, magnetic resonance imaging, nuclear medicine, positron emitting tomography, and ultrasound as it pertains to simulation, detection, and diagnosis of cancer.

Course Competencies

Competency 1: The student will demonstrate knowledge of computed tomography and Magnetic resonance imaging by:

1. Differentiating between computed tomography and magnetic resonance
2. Explaining computed tomography and magnetic resonance use in health care imaging
3. Describing how CT and MRI are used for detection and diagnosis of cancer

Competency 2: The student will demonstrate knowledge of nuclear medicine, positron emitting tomography and ultrasound by:

1. Describing nuclear medicine use with detection and diagnosis of cancer
2. Describing positron emitting tomography use with detection and diagnosis of cancer
3. Describing ultrasound use with detection and diagnosis of cancer

Competency 3: The student will demonstrate knowledge of radiography by:

1. Describing the components and operation of a radiographic circuit
2. Explaining the components of an x-ray tube and their related functions
3. Describing image density and contrast and the factors that affect it
4. Describing image distortion and detail and the factors that affect it
5. Determining the methods and rationale for beam restriction

Learning Outcomes:

- Formulate strategies to locate, evaluate, and apply information