Miami Dade College

Course Description

RAT 1021C | Principles and Practices of Radiation Therapy I| 2 credits

This course is an introduction to all major radiotherapy equipment such as linear accelerators and superficial ortho- and mega-voltage units. Auxiliary equipment such as simulators, immobilization devices, beam directors and modifiers will also be discussed. Patient positioning, treatment planning, patient flow, and quality assurance will be presented in detail.

Course Competencies

Competency 1:

The student will demonstrate knowledge of the fundamental principles of radiation therapy by:

1. Determine the appropriateness of using radiation therapy as a primary treatment modality.
2. Determine the medical and patient information necessary to develop a radiation therapy treatment plan.
3. Differentiate between beam modifiers and their uses with a variety of treatment energies.

Learning Outcomes

- Solve problems using critical and creative thinking and scientific reasoning

Competency 2:

The student will demonstrate knowledge of CT simulation by:

1. Develop a CT simulation plan for a particular tumor to include steps needed prior to, during and after the procedure.
2. Critique treatment images in relation to simulation images.
3. Discuss computed tomography and simulation procedures.

Learning Outcomes

- Solve problems using critical and creative thinking and scientific reasoning

Competency 3:

The student shall be able to describe the radiation therapy treatment procedure by:

1. Discuss the radiation therapist scope of practice and practice standards.
2. Explain safe, ethical and legal practices.
3. Identify the components of megavoltage radiation therapy equipment.

Learning Outcomes

- Solve problems using critical and creative thinking and scientific reasoning