



Course Description

RAT2241 | Radiobiology | 2.00 credits

This course is designed to establish a basic knowledge of principles of cell response to radiation. Factors influencing the effects of radiation, tissue sensitivity, and environmental factors are discussed.

Course Competencies

Competency 1: The student will demonstrate an understanding of the integral aspects of radiation biology required of a radiation therapist by:

1. Integrate laws and principles of radiation biology to the clinical practice of radiation therapy
2. Distinguish between units of radiation quantities and radiobiologic measures using SI units
3. Describe the 4 Rs of radiobiology

Competency 2: The student will demonstrate knowledge of biology of the cancer cell by:

1. Distinguish between somatic and genetic effects of radiation exposure
2. Evaluate factors influencing radiobiologic/biophysical events at the cellular and subcellular level
3. Determine biologic damage due to radiation-induced chemical reactions

Competency 3: The student will demonstrate knowledge of biological interactions of radiation by:

1. Discuss radiation effects on the cell cycle
2. Identify radiosensitive components of the cell
3. Describe radiation syndromes and factors influencing response

Learning Outcomes:

- Solve problems using critical and creative thinking and scientific reasoning