



Course Description

RTE1000 | Orientation to the Imaging Sciences | 2.00 credits

This course is an introduction to the overall field of Imaging Sciences, radiography in particular. Students will learn the basic principles of radiation protection as it applies to the various modalities in imaging and treatment, a history of the imaging sciences, ethical/legal issues, professional behavior, medical terminology, and various patient care concepts.

Course Competencies

Competency 1: The student will be able to demonstrate introductory knowledge of radiologic science and the health care system by:

1. Identifying various settings involved in the delivery of health care
2. Discussing the responsibilities and relationships of all personnel in the radiology department
3. Defining credentialing, national certification, registration, and state licensure
4. Discussing career opportunities and advancement for the radiographer
5. Describing the types, purpose, and functions of professional organizations and societies
6. Identifying educational and certifications requirements

Competency 2: The student will be able to demonstrate knowledge of patient care procedures required in radiologic sciences by:

1. Describing the practice standards for the radiographer as defined by the ASRT and state licensure
2. Explaining the use of various communication models
3. Describing correct principles of body mechanics applicable to patient care
4. Describing the correct patient positions for each routine and special examination
5. Describing immobilization techniques for various types of procedures and patient conditions
6. Listing the information to be collected prior to a patient examination
7. Describing vital signs and lab values used to assess the condition of the patient, including sites for assessment and normal values

Competency 3: The student will be able to convey an understanding of the ethics and laws that impact Radiologic Sciences at both the state and federal levels by:

1. Discussing the origins of medical ethics
2. Explaining concepts of personal honesty, integrity, accountability, competence and compassion as ethical imperatives in health care
3. Explaining select concepts embodied in the principles of patients' rights, the doctrine of informed (patient) consent and other issues related to patients' rights
4. Identifying standards for informed consent and disclosure of protected health information (PHI).
5. Defining tort and explaining the differences between intentional and unintentional torts identifying specific anatomy of the chest, abdomen, upper and lower limbs, shoulder and pelvic girdles on a radiograph

Competency 4: The student will be able to demonstrate introductory knowledge of the x-ray production, image creation, and radiation protection by:

1. Describing the x-ray tube and naming its two components
2. Explaining the basic process of x-ray production
3. Explaining the two general types of digital imaging systems
4. Describing the use of portable radiographic and fluoroscopic units
5. Discussing image quality in terms of image contrast and density
6. Identifying the sources of ionizing radiation
7. Explaining the types of radiation interactions with matter
8. Discussing the various practices used to protect the patient and personnel from excess radiation

Learning Outcomes:

- Communicate effectively using listening, speaking, reading, and writing skills
- Use quantitative analytical skills to evaluate and process numerical data
- Solve problems using critical and creative thinking and scientific reasoning
- Formulate strategies to locate, evaluate, and apply information
- Demonstrate knowledge of ethical thinking and its application to issues in society
- Use computer and emerging technologies effectively