Course Competency

RTE 2571 Principles of Computed Tomography

Course Description

This course provides the radiologic technologist advanced imaging techniques of computed tomography. This introduction to the CT scanning technology will include history and development, equipment, terminology, patient preparation and care, and the principles of image formation, acquisition, and production.

Course Competency	Learning Outcomes
Competency 1: The student will demonstrate knowledge of the history and evolution of computed tomography and the most common uses of CT scanning in medical imaging of Surgical Technology by:	1. Critical thinking
1. 1. Describing the common uses of CT scanning. 2. Identifying the history and evolution of computed tomography. 3. Explaining current trends and procedures in CT and how modifications are used for trauma and pathology.	
Competency 2: The student will demonstrate an in-depth description of major CT equipment components and the sequence of events from the application of electrical current to the radiographic tube to the image by:	1. Critical thinking
1. 1. Describing the major CT equipment components. 2. Identifying various components of the CT control panel. 3. Explaining the sequence of events from the application of electrical current to the radiographic tube to the image.	
Competency 3: The student will demonstrate the methods of acquiring computed tomography images, the process of data acquisition and what factors influence that process by:	1. Critical thinking 2. Information Literacy

1. 1. Identifying the methods of acquiring CT images. 2. Describing the process of data acquisition. 3. Describing the steps for CT image reconstruction. 4. Identifying post-processing techniques for image enhancement.	
Competency 4: The student will demonstrate the methods used to measure patient dose and the role of the computed tomography technologist in reducing radiation exposure by:	1. Critical thinking 2. Information Literacy
1. 1. Explaining the significance of measuring patient does. 2. Explaining the procedures used to measure patient dose. 3. Describing the CT technologist role in reducing radiation exposure.	
Competency 5: The student will demonstrate (1) the methods used to determine image quality in computed tomography and factors that affect image quality, to include CT image artifacts and the factors that influence artifacts and (2) the tests associated with quality control programs by:	1. Critical thinking 2. Information Literacy
1. 1. Describing the methods used to determine image quality in computed tomography and factors that affect image quality. 2. Explaining how artifact affects image quality. 3. Identifying tests associated with quality control programs. 4. Identifying the proper position of a patient and the appropriate scan parameters for common CT examinations.	

Updated: FALL TERM 2023