

NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY

RAD 242 – COMPUTED TOMOGRAPHY PROCEDURES AND INSTRUMENTATION (2 CR.)

Course Description

Focuses on the patient care, imaging procedure and physics and instrumentation related to computed tomography imaging. Lecture 2 hours per week.

General Course Purpose

This course is a component of a career certificate which is designed as a multi-competency module to provide expertise in computed tomography to registered or registry eligible technologists. The completion of the career certificate will prepare individuals for employment as computed tomographers in hospitals and imaging centers. This course will fulfill the professional continuing education requirements required by the American Registry of Radiologic Technologists.

Course Prerequisites/Corequisites

This course is offered to students who have graduated from an approved radiologic technology program and are registered or registry eligible according to the standards provided by the American Registry of Radiologic Technologists.

Course Objectives

Upon completing the course, the student will be able to:

1. Identify proper patient preparation for a CT scan
2. Review History and physical status
3. Identify life threatening situations
4. Discuss proper IV procedures for contrast agents
5. Identify types of contrast agents used in CT scanning and their possible adverse effects
6. Identify radiation protection techniques required
7. Identify the scanning procedure and contrast required for the following:
 - a. head
 - b. neck
 - c. spine
 - d. thorax
 - e. abdomen
 - f. pelvis
 - g. musculoskeletal
8. Identify the system operation and components of computed tomography imaging system
9. Discuss image reconstruction and image display
10. Identify the post-processing procedure and data management
11. Discuss spatial resolution, contrast, noise, and quality assurance as related to the image quality of a CT
12. Identify artifacts which may appear on a CT image

Major Topics to be Included

- A. Patient Care
- B. Imaging Procedures
- C. Physics and instrumentation
- D. Specialized techniques in computed imaging