Washtenaw Community College Comprehensive Report

RAD 259 Introduction to Computed Tomography (CT) Instrumentation and Protocols
Effective Term: Fall 2013

Course Cover

Division: Math, Science and Health
Department: Allied Health
Discipline: Radiography
Course Number: 259
Org Number: 15600
Full Course Title: Introduction to Computed Tomography (CT) Instrumentation and Protocols
Transcript Title: CT Instrumentation & Protocols
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission: New Course
Change Information:
Rationale: This course is needed to better prepare students for the clinical setting.
Proposed Start Semester: Fall 2013
Course Description: This is a course for certified technologists, ARRT (R), ARRT (N), ARRT (T), and (CNMT), who are admitted to the computed tomography (CT) program. An overview of the major components of a computed tomography (CT) scanner, how they work, their function, and the technologists interface with them, and the basic scanning protocols common to CT imaging will be presented.

Course Credit Hours

Variable hours: No
Credits: 1
Lecture Hours: Instructor: 15 **Student:** 15
Lab: Instructor: 0 **Student:** 0
Clinical: Instructor: 0 **Student:** 0

Total Contact Hours: Instructor: 15 **Student:** 15
Repeatable for Credit: NO
Grading Methods: Letter Grades
Audit
Are lectures, labs, or clinicals offered as separate sections?: NO (same sections)

College-Level Reading and Writing

College-level Reading & Writing

College-Level Math

Requisites

Enrollment Restrictions
Admission to Computed Tomography (CT) program

General Education

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Recognize the Key fundamentals of computed tomography (CT) instrumentation.
   Assessment 1
   Assessment Tool: Embedded multiple-choice questions on the final exam.
   Assessment Date: Winter 2017
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: All students
   How the assessment will be scored: Blind-scored with answer key
   Standard of success to be used for this assessment: 90% of the students will score 75% or higher on the outcome related questions.
   Who will score and analyze the data: Faculty

2. Identify routine protocols for acquiring computed tomography (CT) images of the head, neck, spine, thorax, abdomen, and pelvis.
   Assessment 1
   Assessment Tool: Embedded multiple-choice questions on the final exam.
   Assessment Date: Winter 2017
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: All students
   How the assessment will be scored: Blind-scored with an answer key
   Standard of success to be used for this assessment: 90% of the students will score 75% or higher on the outcome related questions.
   Who will score and analyze the data: Faculty

Course Objectives

1. Identify the major components common to computed tomography (CT) scanners.
   Matched Outcomes
2. State the function of the major components of the CT scanner.
   Matched Outcomes
3. Explain how and why each of the major components common to computed tomography (CT) scanners are used.
   Matched Outcomes
4. Determine appropriate protocols and scan parameters of the head, neck, spine, thorax, abdomen, and pelvis.
   Matched Outcomes
5. Discuss the protocol for preparing a patient for a computed tomography (CT) procedure.
   Matched Outcomes
6. Identify differences in computed tomography (CT) scanning protocols/techniques for adult and pediatric CT procedures.
   Matched Outcomes
7. Determine the correct mA, kVp, pitch, rotation time, slice thickness, interval, and prospective recon(s) for computed tomography (CT) procedures.
   Matched Outcomes
8. Identify anatomy that is pertinent to each computed tomography (CT) scan.
   Matched Outcomes
9. Discuss when to use a non-contrast computed tomography (CT) scan and when contrast is recommended.
   Matched Outcomes
10. List the computed tomography (CT) scanner and scan room preparation steps necessary for CT procedures.
    Matched Outcomes
11. Determine appropriate selection of data acquisition mode for computed tomography (CT) procedures.

Matched Outcomes

12. List the anatomical landmarks, patient orientation and position for a given computed tomography (CT) procedure.
    Matched Outcomes
13. List accurate window width and window level selections for computed tomography (CT) procedures.
    Matched Outcomes
14. List the required imaging planes for each computed tomography (CT) procedure.
    Matched Outcomes
15. Describe how the technologist, the scanner components, and the PACS system interface with each other.
    Matched Outcomes

New Resources for Course

Course Textbooks/Resources

Textbooks

Romans, Lois. *Computed Tomography for Technologists A Comprehensive Text*, 1st ed. Wolters Kluwer Health/Lippincott Williams & Wilkins, 2011, ISBN: 0781777518.

Manuals

Periodicals

Software

Equipment/Facilities

Level III classroom

Testing Center

Computer workstations/lab

Other: Radiography lecture/lab (OE 121) will be used.

Reviewer	Action	Date
Faculty Preparer:		
Connie Foster	*Faculty Preparer*	*Feb 28, 2013*
Department Chair/Area Director:		
Connie Foster	*Recommend Approval*	*Mar 01, 2013*
Dean:		
Martha Showalter	*Recommend Approval*	*Mar 05, 2013*
Vice President for Instruction:		
Bill Abernethy	*Approve*	*Apr 10, 2013*