Washtenaw Community College Comprehensive Report

RAD 263 Practical Computed Tomography (CT) Imaging
Effective Term: Winter 2023

Course Cover

College: Health Sciences
Division: Health Sciences
Department: Allied Health
Discipline: Radiography
Course Number: 263
Org Number: 15600
Full Course Title: Practical Computed Tomography (CT) Imaging
Transcript Title: Practical CT Imaging
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission:
Change Information:
  Outcomes/Assessment
Rationale: This course cannot be assessed with the proposed assessment tools because they were never created. Changes in the field of computed tomography also necessitate changes to the course.
Proposed Start Semester: Fall 2022
Course Description: In this course, students will learn computed tomography (CT) scanning procedures and protocol techniques. Students will learn how to identify important cross-sectional anatomy pertinent to the CT field, along with common pathologies. This is a course for certified technologists, ARRT (R), ARRT (N), ARRT (T), and (CNMT), who are admitted to the computed tomography (CT) program.

Course Credit Hours

Variable hours: No
Credits: 3
Lecture Hours: Instructor: 45 **Student:** 45
Lab: Instructor: 0 **Student:** 0
Clinical: Instructor: 0 **Student:** 0

Total Contact Hours: Instructor: 45 **Student:** 45
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
and

Prerequisite
RAD 259 minimum grade "C"; may enroll concurrently
and
Prerequisite
RAD 261 minimum grade "C"; may enroll concurrently

General Education

Request Course Transfer
Proposed For:

Student Learning Outcomes

1. Apply the prescribed CT scanning protocols and techniques for head, neck, spine, thorax, abdomen, pelvis, and extremities.
   Assessment 1
   Assessment Tool: Outcome-related multiple-choice exam questions
   Assessment Date: Fall 2022
   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: 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: Departmental faculty

2. Make modifications in prescribed CT scanning protocols to accommodate variations in a patient's size and/or condition.
   Assessment 1
   Assessment Tool: Outcome-related multiple-choice exam questions
   Assessment Date: Fall 2022
   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: 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: Departmental faculty

3. Differentiate between normal anatomy, anatomical variants, and pathological conditions visualized on CT images.
   Assessment 1
   Assessment Tool: Outcome-related multiple-choice exam questions
   Assessment Date: Fall 2022
   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: 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: Departmental faculty

Course Objectives
1. Discuss positioning of the patient for computed tomography (CT) procedures of the head, neck, spine, thorax, abdomen, pelvis, and upper and lower extremities.

2. Identify the appropriate positioning modifications after assessing a patient and obtaining a patient history for CT procedures.
3. List the technical factors used for each CT procedure.
4. Modify scanning factors such as tube current, tube potential, and pitch factors to reduce the radiation dose to the patient.
5. Differentiate between emergency and non-emergency CT procedures.
6. List the clinical indications for a CT study of the head, neck, spine, thorax, abdomen, pelvis, and upper and lower extremities.
7. Identify normal anatomy, anatomical variants and pathological conditions on CT images of the head, neck, spine, thorax, abdomen, pelvis, and upper and lower extremities.
8. Compare and contrast CT scanning protocols for adult and pediatric patients.
9. Identify CT scanning protocols for pathological conditions of the head, neck, spine, thorax, abdomen, pelvis, and upper and lower extremities.

New Resources for Course

No new resources are needed for this course.

Course Textbooks/Resources

Textbooks

Romans, L., E. . *Computed Tomography for Technologists: A Comprehensive Text*, 2nd ed. Wolters Kluwer Health/Lippincott Williams & Wilkins, 2019, ISBN: 9781496375858.

Kelley, L., and Peterson, C.. *Sectional Anatomy for Imaging Professionals*, 3rd ed. Elsevier, 2013, ISBN: 9780323082600.

Manuals
Periodicals
Software

Equipment/Facilities

Other: Online course

Reviewer	Action	Date
Faculty Preparer:		
Jim Skufis	*Faculty Preparer*	*Mar 15, 2022*
Department Chair/Area Director:		
Kristina Sprague	*Recommend Approval*	*Mar 16, 2022*
Dean:		
Shari Lambert	*Recommend Approval*	*Apr 05, 2022*
Curriculum Committee Chair:		
Randy Van Wagnen	*Recommend Approval*	*Jun 16, 2022*
Assessment Committee Chair:		
Shawn Deron	*Recommend Approval*	*Jun 21, 2022*
Vice President for Instruction:		
Victor Vega	*Approve*	*Jul 08, 2022*

Washtenaw Community College Comprehensive Report

RAD 263 Practical Computed Tomography (CT) Imaging
Effective Term: Fall 2013

Course Cover
Division: Math, Science and Health
Department: Allied Health
Discipline: Radiography
Course Number: 263
Org Number: 15600
Full Course Title: Practical Computed Tomography (CT) Imaging
Transcript Title: Practical CT Imaging
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission: Course Change
Change Information:
   Consultation with all departments affected by this course is required.
   Course description
   Total Contact Hours
   Objectives/Evaluation
Rationale: Increase in contact hours is needed to cover course content.
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. Computed tomography (CT) scanning protocols, patient care, and related pathology will be covered.

Course Credit Hours
Variable hours: No
Credits: 3
Lecture Hours: Instructor: 45 **Student:** 45
Lab: Instructor: 0 **Student:** 0
Clinical: Instructor: 0 **Student:** 0

Total Contact Hours: Instructor: 45 **Student:** 45
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 the Computed Tomography (CT) program
and
Prerequisite
RAD 259 minimum grade "C"; may enroll concurrently
and
Prerequisite

RAD 261 minimum grade "C"; may enroll concurrently
and
Corequisite
RAD 265

General Education
Request Course Transfer
Proposed For:

Student Learning Outcomes

1. Adapt patient care and management techniques for computed tomography (CT) scanning procedures of the head, neck, spine, thorax, abdomen, pelvis, and upper and lower extremities.
   Assessment 1
   Assessment Tool: Embedded multiple choice questions on the final exam.
   Assessment Date: Fall 2015
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections/All students
   Number students to be assessed: All students (maximum admission to Computed Tomography (CT) program is 12 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

2. Select appropriate computed tomography (CT) scanning protocols and techniques for the head, neck, spine, thorax, abdomen, pelvis, and upper and lower extremities.
   Assessment 1
   Assessment Tool: Embedded multiple choice questions on the final exam.
   Assessment Date: Fall 2015
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections/All students
   Number students to be assessed: All students (maximum admission to Computed Tomography (CT) program is 12 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

3. Differentiate between normal anatomy, anatomical variants and pathological conditions on computed tomography (CT) images of the head, neck, spine, thorax, abdomen, pelvis, and upper and lower extremities.
   Assessment 1
   Assessment Tool: Embedded multiple choice questions on the final exam.
   Assessment Date: Fall 2015
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections/All students
   Number students to be assessed: All students (maximum admission to Computed Tomography (CT) program is 12 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. Apply the principles of transferring and immobilizing patients as needed for computed

tomography (CT) procedures.
   Matched Outcomes
2. Discuss positioning of the patient for computed tomography (CT) procedures of the head, neck, spine, thorax, abdomen, pelvis, and upper and lower extremities.
   Matched Outcomes
3. Identify the protocols for assessing a patient and obtaining a patient history for computed tomography (CT) procedures.
   Matched Outcomes
4. List the technical factors used for each computed tomography (CT) procedure.
   Matched Outcomes
5. Modify scanning factors such as tube current, tube potential, and pitch factors to reduce the radiation dose to the patient.
   Matched Outcomes
6. Differentiate between emergency and non-emergency computed tomography (CT) procedures.
   Matched Outcomes
7. List the clinical indications for a computed tomography (CT) study of the head, neck, spine, thorax, abdomen, pelvis, and upper and lower extremities.
   Matched Outcomes
8. Identify normal anatomy, anatomical variants and pathological conditions on computed tomography (CT) images of the head, neck, spine, thorax, abdomen, pelvis, and upper and lower extremities.
   Matched Outcomes
9. Compare and contrast computed tomography scanning protocols for adult and pediatric patients.
   Matched Outcomes
10. Identify computed tomography (CT) scanning protocols for pathological conditions of the head, neck, spine, thorax, abdomen, pelvis, and upper and lower extremities.
   Matched Outcomes

New Resources for Course
   No new resources are needed for this course.

Course Textbooks/Resources
   Textbooks
   Hofer, Matthias. *CT Teaching Manual*, 4th ed. Thieme, 2011, ISBN: 9783131243546.
   Manuals
   Periodicals
   Software
   ### Equipment/Facilities
   Level III classroom
   Testing Center
   Other: OE 121 Radiography Laboratory

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 11, 2013*