

Washtenaw Community College Comprehensive Report

RAD 124 Principles of Radiographic Exposure Effective Term: Fall 2011

Course Cover

Division: Math, Science and Health

Department: Allied Health

Discipline: Radiography

Course Number: 124

Org Number: 15600

Full Course Title: Principles of Radiographic Exposure

Transcript Title: Prin of Radiographic Exposure

Is Consultation with other department(s) required: No

Publish in the Following: College Catalog , Time Schedule , Web Page

Reason for Submission: Three Year Review / Assessment Report

Change Information:

Course description

Outcomes/Assessment

Objectives/Evaluation

Rationale: Three year syllabus review

Proposed Start Semester: Fall 2011

Course Description: This course is a continuation of material presented in RAD 111. The content of this course includes a comprehensive study of atomic theory, radiographic exposure technique, image production using analog and digital mediums, and the appropriate use of radiographic accessory devices. Students will learn theoretical principles for achieving optimal image quality and techniques for reducing patient radiation exposure. Laboratory sessions are included to provide a means of integrating theory with practical applications for use in the clinical setting. This course contains material previously taught in RAD 127.

Course Credit Hours

Variable hours: Yes

Credits: 0 – 3

Lecture Hours: Instructor: 30 **Student:** 30

Lab: Instructor: 15 **Student:** 15

Clinical: Instructor: 0 **Student:** 0

Total Contact Hours: Instructor: 0 to 45 **Student:** 0 to 45

Repeatable for Credit: NO

Grading Methods: Letter Grades

Audit

Are lectures, labs, or clinicals offered as separate sections?: YES (separate sections)

College-Level Reading and Writing

College-level Reading & Writing

College-Level Math

Requisites

Prerequisite

RAD 101 minimum grade "C-"

General Education

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Identify the factors affecting Bremsstrahlung photon production.

Assessment 1

Assessment Tool: Departmental multiple choice final exam administered using Blackboard.

Assessment Date: Fall 2013

Assessment Cycle: Every Three Years

Course section(s)/other population: Only one section of this course is offered per year.

Number students to be assessed: ~38

How the assessment will be scored: Test questions will be selected from the final exam based on content stated in the learning outcome.

Standard of success to be used for this assessment: 75% of the responses to these questions will be correct.

Who will score and analyze the data: Departmental faculty

2. Calculate the appropriate exposure factors necessary to produce an optimal exposure to the image receptor.

Assessment 1

Assessment Tool: Departmental multiple choice final exam administered using Blackboard.

Assessment Date: Fall 2013

Assessment Cycle: Every Three Years

Course section(s)/other population: Only one section of this course is offered per year

Number students to be assessed: ~38

How the assessment will be scored: Test questions will be selected from the final exam based on content stated in the learning outcome.

Standard of success to be used for this assessment: 75% of the responses to these questions will be correct.

Who will score and analyze the data: Departmental faculty

3. Identify the factors that influence the production of scatter radiation.

Assessment 1

Assessment Tool: Departmental multiple choice final exam administered using Blackboard.

Assessment Date: Fall 2013

Assessment Cycle: Every Three Years

Course section(s)/other population: Only one section of this course is offered per year.

Number students to be assessed: ~38

How the assessment will be scored: Test questions will be selected from the final exam based on content stated in the learning outcome.

Standard of success to be used for this assessment: 75% of the responses to these questions will be correct.

Who will score and analyze the data: Departmental Faculty

Course Objectives

1. List and explain the radiographic qualities that influence the visibility of the radiographic image.

Matched Outcomes

2. Explain the difference between Bremsstrahlung and characteristic interactions in the production of x-radiation.

Matched Outcomes

- 3. Define milliamperage (mA) and explain its relationship to patient dose and exposure to the image receptor.

Matched Outcomes

- 4. Calculate mathematical problems using the inverse square law and mAs-distance formula.

Matched Outcomes

- 5. Identify the principle factors that affect the amount of scattered radiation produced during an exposure.

Matched Outcomes

- 6. Identify the causes of radiographic fog and explain appropriate methods to reduce and/or eliminate the production of this image data.

Matched Outcomes

New Resources for Course

No new resources required.

Course Textbooks/Resources

Textbooks

Adler, A., M. & Carlton, R., R.. *Principles of Radiographic Imaging - An Art and Science*, 4th ed. Delmar Publishers, 2006

Manuals

Periodicals

Software

Equipment/Facilities

Level III classroom

Other: Radiography Lab in OE 121

Reviewer

Action

Date

Faculty Preparer:

Faculty Preparer

Oct 28, 2010

Department Chair/Area Director:

Connie Foster

Recommend Approval

Nov 01, 2010

Dean:

Granville Lee

Recommend Approval

Nov 05, 2010

Vice President for Instruction:

Stuart Blacklaw

Approve

Mar 15, 2011