

RADT 100 Course Outline as of Fall 2018**CATALOG INFORMATION**

Dept and Nbr: RADT 100 Title: SURVEY MEDICAL IMAGING

Full Title: Survey of Medical Imaging

Last Reviewed: 2/10/2020

| Units | | Course Hours per Week | | Nbr of Weeks | Course Hours Total | |
|---------|------|-----------------------|------|--------------|--------------------|-------|
| Maximum | 2.00 | Lecture Scheduled | 2.00 | 17.5 | Lecture Scheduled | 35.00 |
| Minimum | 2.00 | Lab Scheduled | 0 | 8 | Lab Scheduled | 0 |
| | | Contact DHR | 0 | | Contact DHR | 0 |
| | | Contact Total | 2.00 | | Contact Total | 35.00 |
| | | Non-contact DHR | 0 | | Non-contact DHR | 0 |

Total Out of Class Hours: 70.00

Total Student Learning Hours: 105.00

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

Catalog Description:

A survey of careers and programs in medical imaging. Mathematical calculations used in radiology and radiation protection. Discussion of American Registry of Radiologic Technologists (ARRT) code of ethics, licensing eligibility, and impacts of medical imaging on general patient care and trauma care.

Prerequisites/Corequisites:**Recommended Preparation:**

Eligibility for ENGL 1A or equivalent and Course Completion of CI 54

Limits on Enrollment:**Schedule of Classes Information:**

Description: A survey of careers and programs in medical imaging. Mathematical calculations used in radiology and radiation protection. Discussion of American Registry of Radiologic Technologists (ARRT) code of ethics, licensing eligibility, and impacts of medical imaging on general patient care and trauma care. (Grade Only)

Prerequisites/Corequisites:

Recommended: Eligibility for ENGL 1A or equivalent and Course Completion of CI 54

Limits on Enrollment:

Transfer Credit:

Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

| | | | |
|----------------------|----------------------|------------|-----------|
| AS Degree: | Area | Effective: | Inactive: |
| CSU GE: | Transfer Area | Effective: | Inactive: |
| IGETC: | Transfer Area | Effective: | Inactive: |
| CSU Transfer: | | Effective: | Inactive: |
| UC Transfer: | | Effective: | Inactive: |

CID:

Certificate/Major Applicable:

Both Certificate and Major Applicable

COURSE CONTENT

Student Learning Outcomes:

At the conclusion of this course, the student should be able to:

1. Compare and contrast various career opportunities in medical imaging.
2. Discuss the impacts of medical imaging on the general and special populations.

Objectives:

At the completion of this course, the student will be able to:

1. List and compare careers in medical imaging.
2. Compare and contrast the health science programs in higher education institutions.
3. List and compare the Systems International units as used in health care.
4. Explain the production of x-rays and their effects on matter.
5. List the radiation protection measures for self, patients, and other medical personnel.
6. Compare and contrast the elements of practical applications for radiation protection.
7. Compare and contrast elements of the ARRT (American Registry of Radiologic Technologists) code of ethics.
8. Identify the eligibility possibilities for those applying for a state and/or national license.
9. List the impacts of medical imaging on the adult population
10. List the impacts of medical imaging on the gerontologic population.
11. List the impacts of medical imaging on the pediatric population.
12. Compare patient care practices in a trauma environment.

Topics and Scope:

- I. Measurement systems and their application in radiology and pharmacology problems, conversions within and between systems
 - A. Radiation dose calculation
 - B. System International units
- II. X-Rays

- A. Discovery
- B. Production
- C. Interactions with matter

III. Radiation Protection

- A. Patient
- B. Self
- C. Other personnel

IV. Overview of Careers in Medical Imaging

- A. Radiography
- B. Computerized tomography
- C. Magnetic resonance imaging
- D. Medical sonography
- E. Nuclear medicine

V. Professional Licensing/Ethics

- A. American Registry of Radiologic Technologists (ARRT) code of ethics
- B. Licensing eligibility
 - 1. State requirements.
 - 2. Registry requirements.
- C. Background check
- D. Applicants with a criminal background

VI. Patient Care

- A. Gerontology
- B. Pediatrics
- C. Trauma

Assignment:

1. Present (1) oral or written report on the ethical behaviors in medical imaging.
2. Read a chapter every week (10-20 pages).
3. Complete (1) research paper comparing different imaging modalities.
4. Complete (1) report on basic terminology, or the technology, used in medical imaging in the clinical setting.
5. Report (1) on the legal aspects of medical imaging.
6. Quizzes (2-5).
7. Career exploration report (1).
8. Midterm exam.
9. Final exam.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

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| Research paper, written reports, career exploration report |
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|---------------------|
| Writing 15 - 30% |
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Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

None

Problem solving
0 - 0%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None

Skill Demonstrations
0 - 0%

Exams: All forms of formal testing, other than skill performance exams.

Quizzes, midterm, and final exam

Exams
60 - 70%

Other: Includes any assessment tools that do not logically fit into the above categories.

Class participation

Other Category
10 - 15%

Representative Textbooks and Materials:

Introduction to Radiologic Technology, Gurley, LaVerne, (7th), 2011 Mosby
Instructor prepared materials