#### **RADT 100 Course Outline as of Fall 2020**

# **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	<b>Course Hours Total</b>	
Maximum	2.00	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	2.00	Lab Scheduled	0	6	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:**

Course completion of RADT 99 and Eligibility for ENGL 1A or equivalent

### 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: Course completion of RADT 99 and Eligibility for ENGL 1A or equivalent Limits on Enrollment: Transfer Credit: Repeatability: Two Repeats if Grade was D, F, NC, or NP

# **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

AS Degree: CSU GE:	Area Transfer Area	Effective: Effective:	Inactive: Inactive:
<b>IGETC:</b>	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 conclusion of this course, the student should 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. Written reports (one of each)
  - A. Ethical Behaviors in Medical Imaging
  - B. Basic Terminology, or the Technology, Used in Medical Imaging in the Clinical Setting
  - C. Legal Aspects of Medical Imaging
  - D. Career Exploration
- 2. Read a chapter every week (10-20 pages)
- 3. Complete research paper comparing different imaging modalities
- 4. Quizzes (2-5)
- 5. Midterm exam
- 6. 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.

Research paper and written reports

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

#### None

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

None

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

Quizzes, midterm, and final exam

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

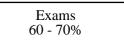
Class participation

#### **Representative Textbooks and Materials:**

Introduction to Radiologic Technology. 8th ed. Callaway, William. Mosby. 2020 Instructor prepared materials

Problem solving 0 - 0%

Skill Demonstrations
0 - 0%



Other Category 10 - 15%