

RADIOLOGIC TECHNOLOGY

RADIOLOGIC TECHNOLOGY (RDTC)

DIVISION: Health Sciences

RDTC 100 INTRODUCTION TO MEDICAL IMAGING

2 unit

Corequisite(s): RDTC 101

Enrollment Limitation: *Acceptance into the Radiologic Technology program; Students accepted into the radiology technology program are based on the number of available clinical facilities and the number of students each clinical facility can accommodate*

For entry-level students accepted into the radiologic technology program. Responsibilities of a radiologic technologist regarding ethics and patient's emotional needs. Explanation of Professional Organizations, ARRT Code of Ethics. Develop introductory positioning skills using anatomic landmarks for chest radiography. Total of 27 hours lecture and 27 hours laboratory.

Grade Mode: Letter Grade

RDTC 101 MEDICAL PROCEDURES FOR THE TECHNOLOGIST

3 unit

Corequisite(s): RDTC 100

The physical needs of the patient with emphasis on aseptic technique, preparations for radiology examinations, consent forms, body mechanics, Responsibilities of the the technologist during medical emergencies, informed consents, and patient transfers. Basic hospital procedures, communication skills, CPR review, HIPAA and Patient Bill of Rights. Total of 36 hours lecture and 54 hours laboratory

Grade Mode: Letter Grade

RDTC 102 RADIATION PROTECTION & RADIOBIOLOGY

3 unit

Prerequisite(s): RDTC 100 and 101

Corequisite(s): RDTC 103A, 110, 112A, and 117A

Study of interactions of radiation with matter and biological effects associated with the use of ionizing radiation. Emphasis on radiation safety of patients and personnel based on the ALARA concept. NCRP recommendations, Regulatory Committee Regulations, California Department of Public Health, Radiation Health Branch regulations. Health implications to present and future generations, radiation sensitivity, manifestation and treatment of radiation sickness. Introduction to X-ray equipment, circuitry, and filtration. Total of 54 hours lecture.

Grade Mode: Letter Grade

RDTC 103A RADIOGRAPHIC ANATOMY AND POSITIONING, A

3.5 unit

Prerequisite(s): RDTC 100, 101

Corequisite(s): RDTC 102, 110, 112A, 117A

Positioning nomenclature, topographic anatomy emphasizing anatomical landmarks to locate organs within each body region including upper and lower extremities. Positioning by use of positioning phantoms in x-ray laboratory setting including the skeletal, thoracic and abdominal cavities. Introduction of mobile radiography, digital radiography, and fluoroscopy. Positioning of pediatric, geriatric and trauma patients. Total of 45 hours lecture and 72 hours laboratory.

Grade Mode: Letter Grade

RDTC 103B RADIOGRAPHIC ANATOMY AND POSITIONING, B

3.5 unit

Prerequisite(s): RDTC 102, 103A, 110, 112A, 117A

Corequisite(s): RDTC 104, 112B, and 117B

Anatomy and positioning of the cervical, thoracic and lumbar spines, cranium, sinus positioning. Introduction to Fluoroscopy of the lower GI , upper GI tract, and Genitourinary tract. Contrast media, laboratory positioning by use of phantoms. Image critique. Total of 45 hours lecture and 72 hours laboratory.

Grade Mode: Letter Grade

RDTC 103C CROSS SECTIONAL ANATOMY

3 unit

Prerequisite(s): RDTC 103B and 119

Corequisite(s): RDTC 105, 111, 117C

Enrollment Limitation: *Enrollment is based on students accepted into the radiology program*

Non-PCC Radiology students may enroll in the course if they are CRT, ARRT certified. We do not accept Limited X-Ray Students or students from other radiology programs Identification of sectional anatomy concentrating on brain, neck, thorax, abdomen, and pelvis, including the cervical, thoracic and lumbar spines. Correlation of axial, sagittal and coronal sections to positioning in CT scanning. CT machines used in clinicals. Total of 54 hours lecture.

Grade Mode: Letter Grade

RDTC 104 PRINCIPLES OF RADIOGRAPHIC IMAGING

3 unit

Prerequisite(s): All of the following: RDTC 102, 103A, 110, 112A, 117A

Corequisite(s): RDTC 103B, 112B, 117B

Development and use of technique charts. Calculations to determine specific exposures. Digital radiography processing systems and factors affecting radiographic spatial resolution. Use of radiographic phantoms and accessory devices. Total of 36 hours lecture and 54 hours laboratory.

Grade Mode: Letter Grade

RDTC 105 SPECIAL PROCEDURES**3 unit****Prerequisite(s):** RDTC 119**Corequisite(s):** RDTC 103C, 111, 117C**Enrollment Limitation:** Enrollment is limited by clinical availability

Specialized technical procedures in radiography. Angiogram, radiographic equipment, and accessories Anatomy and physiology of involved areas. Emphasis on selective angiography procedures, venipuncture, and responsibility of the technologist as part of the special procedure team. Total of 54 hours lecture.

Grade Mode: Letter Grade**RDTC 110 PROFESSIONAL ETHICS****2 unit****Prerequisite(s):** RDTC 100 and 101**Corequisite(s):** RDTC 102, 103A, 112A, 117A

Integration of interpersonal skills while analyzing the medico-legal issues, professional and ethical values in radiologic technology. Total of 36 hours lecture.

Grade Mode: Letter Grade**RDTC 111 DIGITAL RADIOGRAPHY****2 unit****Prerequisite(s):** RDTC 119**Corequisite(s):** RDTC 103C, 105, and 117C

Principles, components and functions of digital radiography with emphasis on digital imaging and PACS in the radiology department. Brief introduction to medical informatics, quality control and management. Total of 36 hours lecture.

Grade Mode: Letter Grade**RDTC 112A RADIOLOGIC PHYSICS, A****3 unit****Prerequisite(s):** RDTC 100 and 101**Corequisite(s):** RDTC 102, 103A, 110, 117A

Fundamentals of electrical and radiation physics. Emphasis on principles underlying optics, electromagnetic and other types of ionizing radiation. Total of 36 hours lecture and 54 hours laboratory.

Grade Mode: Letter Grade**RDTC 112B RADIOLOGIC PHYSICS, B****3 unit****Prerequisite(s):** All of the following: RDTC 102, 103A, 110, 112A, and 117A**Corequisite(s):** RDTC 103B, 104, and 117B

Function and use of basic radiologic physics in diagnostic radiology. Applied physical rules and laws in general physics, production of the X-ray beam, tubes and generators, circuitry and equipment. Quality assurance of special equipment. Total of 36 hours lecture and 54 hours laboratory.

Grade Mode: Letter Grade**RDTC 113 CLINICAL PRACTICUM, 3****2 unit****Prerequisite(s):** All of the following: RDTC 103B, 104, 112B, and 117B

Clinical experience in a radiology or medical imaging facility under the supervision of a certified ARRT Radiologic Technologist. Participation will consist of observation, assistance and performance. Total of 108 hours of laboratory.

Grade Mode: Letter Grade**RDTC 113B CLINICAL PRACTICUM, B****4 unit****Prerequisite(s):** All of the following: RDTC 103C, 105, 111, and 117C

Clinical experience in the radiology department of an affiliated hospital or medical imaging facility under the supervision of an ARRT certified radiologic technologist. Emphasis on fluoroscopic studies, mobile C-arm studies, and trauma studies. Health physical, background check, drug test, and cardiopulmonary resuscitation (CPR) certification is required. Intended for students enrolled in Radiologic Technology Program. Designed to meet The Joint Review Committee on Education in Radiologic Technology (JRCERT) accreditation standards. Participation will consist of observation, assistance, and performance. Total of 240 hours of laboratory.

Grade Mode: Letter Grade**RDTC 116 RADIOLOGIC TECHNOLOGY REVIEW****2 unit****Prerequisite(s):** RDTC 103C, 105, 111, and 117C**Corequisite(s):** RDTC 117D, 118; and either RDTC 121 or 123

Advanced course with the prime objectives of understanding the principles and skills of the radiologic technologist in an affiliated hospital. Emphasis on testing techniques, resume building and preparation for national board certification. Total of 36 hours lecture.

Grade Mode: Audit, Letter Grade**RDTC 117A CLINICAL PRACTICUM, 1****4.5 unit****Prerequisite(s):** All of the following: RDTC 100, 101**Corequisite(s):** RDTC 102, 103A, 110, 112A

Clinical experience in a radiology or medical imaging facility under the supervision of a certified ARRT Radiologic Technologist. Participation will consist of observation, assistance and performance. Total of 243 hours of laboratory.

Grade Mode: Letter Grade

RDTC 117B CLINICAL PRACTICUM, 2**4.5 unit****Prerequisite(s):** *All of the following: RDTC 102, 103A, 110, 112A, and 117A***Corequisite(s):** *RDTC 103B, 104, and 112B*

Clinical experience in a radiology or medical imaging facility under the supervision of a certified ARRT Radiologic Technologist. Participation will consist of observation, assistance and performance. Total of 243 hours of laboratory.

Grade Mode: *Letter Grade***RDTC 117C CLINICAL PRACTICUM, 5****9 unit****Prerequisite(s):** *All of the following: RDTC 117A, 117B, 119***Corequisite(s):** *RDTC 103C, 105, 111*

Clinical experience in a radiology or medical imaging facility under the supervision of a certified ARRT Radiologic Technologist. Participation will consist of observation, assistance and performance. Total of 486 hours laboratory.

Grade Mode: *Letter Grade***RDTC 117D CLINICAL PRACTICUM, 6****7.5 unit****Prerequisite(s):** *All of the following: RDTC 103C, 105, 111, 117C***Corequisite(s):** *RDTC 116, 118, and either RDTC 121 or 123*

Clinical experience in a radiology or medical imaging facility under the supervision of a certified ARRT Radiologic Technologist. Participation will consist of observation, assistance and performance. Total of 407 hours laboratory.

Grade Mode: *Letter Grade***RDTC 119 CLINICAL PRACTICUM, 4****7.5 unit****Prerequisite(s):** *All of the following: RDTC 103B, 104, 113, 117B*

Clinical experience in affiliated hospitals as an extension of and related to classroom instruction, and application of disease and injury changes. Emphasis on features of conditions in X-ray examinations. Nine weeks. Total of 18 hours lecture and 351 hours laboratory.

Grade Mode: *Letter Grade***RDTC 120 INDEPENDENT STUDY****1 unit****Enrollment Limitation:** *Acceptance into the Radiologic Technology program and program director approval*

Participation in research projects including experience in clinical practice settings, practical laboratory assignment, lecture attendance, literature review and community projects. Total of 54 hours laboratory.

Grade Mode: *Letter Grade***RDTC 121 MAMMOGRAPHY PROCEDURES****3 unit****Prerequisite(s):** *RDTC 103C, 105, 111, 117C or a valid CRT, ARRT Certification in Diagnostic Radiology***Corequisite(s):** *RDTC 116, 117D, and 123***Enrollment Limitation:** *For non-PCC students, documentation of current California Radiologic Technology Certificate Diagnostic Radiologic Technology and, ARRT certification and/or approved by Program Director*

Technical and procedural aspects of mammography including radiation protection, quality assurance, breast anatomy, pathology, physiology, image critique, positioning and mass localization and biopsy procedures. Interpret MQSA guidelines. This course prepares the student to take ARRT exam and/or State of California exam upon completion of required exams and course completion. Total of 54 hours lecture.

Grade Mode: *Letter Grade***RDTC 123 COMPUTERIZED TOMOGRAPHY****3 unit****Prerequisite(s):** *RDTC 103C, 105, 111, and 117C ; or a valid California Radiologic Technologist Certificate in Diagnostic Radiology and ARRT certification, and/or approval from the Program Director***Corequisite(s):** *RDTC 116 and 117D***Enrollment Limitation:** *For non-PCC students, documentation of current California Radiologic Technology Certificate Diagnostic Radiologic Technology and/or approval by Program Director*

Principles of computed tomography, including data acquisition, image reconstruction, image display system, image recording system, and image storage system. Patient Care and Safety. Quality assurance, quality control and other aspects of CT, and basic concepts of Spiral and Helical scanning. Image formation, manipulation and 3D reconstruction. Total of 54 hours lecture.

Grade Mode: *Letter Grade*