

RADIOGRAPHY TECHNOLOGY (RADT)

RADT-101 Introduction to Radiography

2 Credits

Lecture: 2 hours per week

Offering: Fall Only, All Years

The course includes an introduction to, and overview of, radiology and basic radiation protection instruction to allow students to begin the clinical practicum. Students will learn basic radiographic principles: image acquisition and processing, factors affecting radiographic quality, calibration, equipment design, filters, electromagnetic radiation, exposure factors, quality assurance and control testing, fundamentals of computers and the internet in radiology.

RADT-102 Patient Care in Radiography

3 Credits

Lecture: 2 hours per week, **Lab:** 3 hours per week

Offering: Fall Only, All Years

This course provides an introduction to fundamental patient care procedures. Students will learn the role of the radiographer and other members of the health care team, patient and technologist interactions, body mechanics and patient transfer, aseptic technique, patient care during special exams, mobile and surgical radiography, emergency procedures, drug administration, and use and care of support equipment in preparation for patient contact. Students will receive an introduction to the hospital environment, health care teams, and basic patient care.

RADT-104A Radiographic Images I

1 Credit

Lecture: 1 hour per week

Offering: Fall Only, All Years

This course includes beginning image evaluation and radiographic anatomy. Students will learn disease causes, definitions, radiographic manifestations, and effects on image production. Students will present radiographs taken in the laboratory or clinic with emphasis on exam indication, pathology, positioning, radiographic technique and anatomy demonstrated.

Pre/Corequisites: Take RADT-106

RADT-104B Radiographic Images I

1 Credit

Lecture: 1 hour per week

Offering: Spring Only, All Years

This course includes beginning image evaluation and radiographic anatomy. Students will learn disease causes, definitions, radiographic manifestations, and effects on image production. Students will present radiographs taken in the laboratory or clinic with emphasis on exam indication, pathology, positioning, radiographic technique, and anatomy demonstrated.

Prerequisites: RADT-104A

RADT-105 Radiation Protection

2 Credits

Lecture: 2 hours per week

Offering: Spring Only, All Years

This course includes principles of radiation safety, biological effects of radiation, x-ray production, radiation units, radiation detection devices, measurement, regulations, personnel monitoring and objectives of a radiation protection program.

RADT-106 Radiographic Procedures I

3 Credits

Lecture: 2 hours per week, **Lab:** 3 hours per week

Offering: Fall Only, All Years

This course introduces radiographic anatomy and positioning procedures necessary to produce beginning diagnostic radiographs. The student will learn proper technical factors for different imaging situations, radiographic equipment operation, radiation protection, positioning terminology, patient considerations, and radiographic pathology.

RADT-107 Radiography Physics

3 Credits

Lecture: 3 hours per week

Offering: Fall Only, All Years

This course includes electromagnetic radiation, electromagnetism, and x-ray physics. Students will learn the x-ray: circuit, generators, equipment, quality control, radiation units, production, interactions, image intensification, fluoroscopy, conventional tomography, computed tomography, and mammography. Students will perform technique selection problems with advanced formula application.

Prerequisites: RADT-108, RADT-192

RADT-109 Radiographic Procedures II

3 Credits

Lecture: 2 hours per week, **Lab:** 3 hours per week

Offering: Spring Only, All Years

This course is the second course in radiographic anatomy and positioning procedures necessary to produce diagnostic radiographs of the entire body (except skull). Students will learn proper technical factors for different imaging situations, radiographic equipment operation, radiation protection, positioning terminology, patient considerations, and radiographic pathology.

Prerequisites: RADT-106, RADT-180

RADT-110 Law and Ethics for Radiography

1 Credit

Lecture: 1 hour per week

Offering: Fall Only, All Years

The course introduces students to ethical principles related to Radiography Technology. Students will learn: the historical and philosophical basis of ethics in radiography, ethical and legal concepts in health care, the legal responsibilities of the technologist, and how professional organizations, credentialing, and development influence the role of the radiologic technologist.

RADT-180 Clinical Education I**3 Credits****Lab:** 9 hours per week**Offering:** Fall Only, All Years

This course consists of supervised rotations through routine diagnostic areas. Students will perform beginning radiologic examinations on patients under direct supervision of a technologist until competency has been achieved.

RADT-182 Clinical Education II**6 Credits****Lab:** 18 hours per week**Offering:** Spring Only, All Years

This course is the second course in clinical education for the radiography technology programs. This course consists of supervised rotations through routine diagnostic areas. Students will perform radiologic examinations on patients under direct supervision of a technologist until competency has been achieved.

Prerequisites: RADT-180**Corequisites:** RADT-104B, RADT-105, RADT-108**RADT-192 Clinical Education III****3 Credits****Lab:** 9 hours per week**Offering:** Summer Only, All Years

This course consists of supervised rotations through routine diagnostic areas. Students will perform radiologic examinations on patients under direct supervision of a technologist until competency has been achieved.

Prerequisites: RADT-108, RADT-182**Corequisites:** RADT-202A, RADT-205**RADT-201 Pharmacology and Contrast Procedures In Radiography****2 Credits****Lecture:** 2 hours per week**Offering:** Spring Only, All Years

This course includes an introduction to the uses, contraindications and pharmacology of contrast media. Students will learn pharmacology principles, drug classification and safety, routes of administration, intravenous drug therapy, current practice status, and informed consent. Procedural considerations for contrast studies (such as upper gastrointestinal exams and barium enemas) and fluoroscopic techniques will be covered.

Prerequisites: RADT-192, RADT-206**RADT-202A Radiographic Images II****1 Credit****Lecture:** 1 hour per week**Offering:** Summer Only, All Years

This course is a continuation of RADT 104 with advanced image evaluation, radiographic anatomy, and pathology. Students will present radiographs taken in the laboratory or clinic highlighting exam indication, positioning, pathology, radiographic technique and anatomy demonstrated. Emphasis will be on higher level procedures.

Prerequisites: RADT-104B, RADT-182**RADT-202B Radiographic Images II****1 Credit****Lecture:** 1 hour per week**Offering:** Fall Only, All Years

This course is a continuation of RADT 104 with advanced image evaluation, radiographic anatomy, and pathology. Students will present radiographs taken in the laboratory or clinic highlighting exam indication, positioning, pathology, radiographic technique and anatomy demonstrated. Emphasis will be on higher level procedures.

Prerequisites: RADT-192, RADT-202A**RADT-204 Radiographic Procedures III****2 Credits****Lecture:** 1 hour per week, **Lab:** 6 hours per week**Offering:** Summer Only, All Years

This course introduces students to advanced radiographic anatomy and positioning procedures. Students will learn advanced procedures, pathology, and image evaluation including the skill. This course includes an introduction to principles of pediatric radiography.

Prerequisites: RADT-109, RADT-182**RADT-206 Radiographic Procedures IV****2 Credits****Lecture:** 2 hours per week**Offering:** Fall Only, All Years

This course introduces students to advanced imaging.

Prerequisites: RADT-192, RADT-202A**RADT-291 Clinical Education Option****1 Credit****Lab:** 3 hours per week**Offering:** Spring Only, All Years

This course is a continuation of clinical education for the student that desires additional clinical education in either a routine diagnostic area or special rotation. Students have the option of picking (upon availability) a rotation of interest. Rotations that are available include the emergency room, portable radiography, surgery, fluoroscopy, outpatient imaging, special procedures, computed tomography (CT), magnetic resonance imaging (MRI), nuclear medicine, ultrasound, mammography, radiation therapy, and cardiovascular laboratory.

Prerequisites: RADT-202A and RADT-202B, RADT-206, RADT-292**RADT-292 Clinical Education IV****8 Credits****Lab:** 24 hours per week**Offering:** Fall Only, All Years

This course is the fourth course in clinical education for the radiography technology program. Students will be supervised in rotations through diagnostic areas. Students will perform increasingly difficult radiologic examinations on patients under direct supervision of a technologist until competency has been achieved.

Prerequisites: RADT-192, RADT-202A

RADT-297 Senior Radiography Review**1 Credit**

Lecture: 1 hour per week

Offering: Spring and Summer Only, All Years

This course is designed to prepare students to take the American Registry of Radiologic Technologists (ARRT) examination in radiography. Students will review the main content areas that are identified by the ARRT. Course review includes: radiation protection, equipment operation and quality control, image production and evaluation, radiographic procedures, patient care and education. Students will learn test taking techniques and strategies for success on the national exam.

Prerequisites: RADT-202B, RADT-292

RADT-298 Clinical Education V**8 Credits**

Lab: 24 hours per week

Offering: Spring Only, All Years

This course is the final course in clinical education for the radiography program. Student will be supervised in rotations through diagnostic areas. Students will perform increasingly difficult radiologic examinations on patients under direct supervision of a technologist until competency has been achieved.

Prerequisites: RADT-292

Corequisites: RADT-201