

RADIOLOGIC TECHNOLOGY (RADT)

RADT 14003 INTRODUCTION TO RADIOLOGIC TECHNOLOGY 2 Credit Hours

Introduction to radiologic technology program, general anatomy, radiographic procedures, imaging equipment and techniques, radiation protection, professional organizations and clinical education.

Prerequisite: Admission to technical study; and radiologic technology major.

Schedule Type: Combined Lecture and Lab

Contact Hours: 1.5 lecture, .5 lab

Grade Mode: Standard Letter

RADT 14005 CLINICAL EDUCATION I 1 Credit Hour

Supervised observation and experience at the clinical education site with emphasis on clinical practice of basic skills of radiologic technology and the exams covered in Radiographic Procedures I (chest and abdomen). Student is assigned to the clinical education site for 15 hours per week for 7.5 weeks in summer.

Prerequisite: None.

Corequisite: None.

Schedule Type: Clinical Laboratory, Laboratory

Contact Hours: 2.5 lab, 5 other

Grade Mode: Standard Letter-IP

RADT 14006 RADIOGRAPHIC PROCEDURES I 1 Credit Hour

Introduction to radiographic procedures and positioning of the chest and abdomen.

Prerequisite: None.

Schedule Type: Laboratory

Contact Hours: 2 lab

Grade Mode: Standard Letter

RADT 14015 CLINICAL EDUCATION II 3 Credit Hours

Continuation of Clinical Education I with emphasis on skeletal radiography that includes upper and lower extremities, shoulder and pelvic girdles, vertebral spine and bony thorax. Student is assigned to the clinical site 22.5 hours per week.

Prerequisite: RADT 14005 and 14006.

Schedule Type: Clinical Laboratory, Laboratory

Contact Hours: 7.5 lab, 15 other

Grade Mode: Standard Letter-IP

RADT 14016 PATIENT CARE MANAGEMENT 2 Credit Hours

Interpersonal communication, history taking, medical legal issues in radiology, physical assistance, patient monitoring, vital signs, patient tubes and catheters, infection control, aseptic and non-aseptic techniques, sterile procedures, tube and line insertions, medical emergencies, pharmacology and contrast media.

Prerequisite: RADT 14003 with a grade of C or better.

Schedule Type: Combined Lecture and Lab

Contact Hours: 1 lecture, 2 lab

Grade Mode: Standard Letter

RADT 14018 IMAGING EQUIPMENT 2 Credit Hours

A study of the equipment used in radiographic imaging including x-ray tubes, x-ray filters, beam restrictors, grids, image receptors, fluoroscopic and mobile equipment and methods of quality control.

Prerequisite: None.

Schedule Type: Combined Lecture and Lab

Contact Hours: 1.8 lecture, .2 lab

Grade Mode: Standard Letter

RADT 14021 RADIOGRAPHIC PROCEDURES II 4 Credit Hours

Radiographic anatomy, positioning and image evaluation of the upper extremities, shoulder girdle, lower extremities, pelvic girdle, vertebral spine and bony thorax.

Prerequisite: None.

Schedule Type: Combined Lecture and Lab

Contact Hours: 3 lecture, 2 lab

Grade Mode: Standard Letter

RADT 14024 RADIOGRAPHIC PROCEDURES III 4 Credit Hours

Radiographic anatomy, positioning, procedures and image evaluation of the gastrointestinal, biliary and urinary systems and skull and facial bones positioning.

Prerequisite: RADT 14021.

Corequisite: RADT 14025.

Schedule Type: Combined Lecture and Lab

Contact Hours: 3 lecture, 2 lab

Grade Mode: Standard Letter

RADT 14025 CLINICAL EDUCATION III 3 Credit Hours

Continuation of Clinical Education II with emphasis on clinical practice of previous course content plus digestive, biliary and urinary procedures as well as skull and facial bones positioning. Student assigned to clinical education setting 22.5 hours per week.

Prerequisite: RADT 14015.

Corequisite: RADT 14024.

Schedule Type: Clinical Laboratory, Laboratory

Contact Hours: 7.5 lab, 15 other

Grade Mode: Standard Letter-IP

RADT 14034 IMAGE ACQUISITION AND PROCESSING 2 Credit Hours

Study of the technical factors and process of image acquisition, factors affecting image quality, processing of digital images and data management.

Prerequisite: RADT 14018.

Schedule Type: Combined Lecture and Lab

Contact Hours: 1 lecture, 2 lab

Grade Mode: Standard Letter

RADT 14085 CLINICAL EDUCATION IV 2 Credit Hours

Continuation of Clinical Education III with emphasis on clinical practice of content in previous clinical courses. More emphasis on independent clinical practice of procedures previously mastered. Clinical and lab time is equivalent to 262.5 hours.

Prerequisite: RADT 14025.

Schedule Type: Clinical Laboratory, Laboratory

Contact Hours: 2.5 lab, 15 other

Grade Mode: Standard Letter-IP

RADT 14096 INDIVIDUAL INVESTIGATION IN DIRECTED READINGS IN RADIOLOGIC TECHNOLOGY 3 Credit Hours

(Repeatable for credit) Student selects prescribed number of medical journals, completes questions, paper and presentation.

Prerequisite: Special approval.

Schedule Type: Individual Investigation

Contact Hours: 3 other

Grade Mode: Standard Letter

RADT 21095 SPECIAL TOPICS IN RADIOLOGIC TECHNOLOGY 2-4 Credit Hours

(Repeated registration permitted) Student participation course on topics pertinent to radiologic technology. Topics are chosen by the instructor.

Student may enroll in course more than once.

Prerequisite: Special approval from instructor.

Schedule Type: Lecture

Contact Hours: 2-4 lecture

Grade Mode: Standard Letter

RADT 24008 RADIOBIOLOGY AND RADIATION PROTECTION 3 Credit Hours

Biological aspects of radiation, radiation interaction with matter, minimizing patient radiation exposure, and personnel protection are topics covered.

Prerequisite: BSCI 11010 and BSCI 11020, or BSCI 21010 and BSCI 21020, or ATTR 25057 and ATTR 25058, or EXSC 25057 and EXSC 25058; and RADT 14003.

Corequisite: RADT 24015.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

RADT 24014 ADVANCED IMAGING 2 Credit Hours

Procedures and equipment used in advanced medical imaging including fluoroscopy, mammography, CT, MRI, interventional imaging, nuclear medicine, PET imaging, diagnostic medical sonography, radiation therapy and fusion studies as well as quality assurance.

Prerequisite: RADT 14025.

Schedule Type: Lecture

Contact Hours: 2 lecture

Grade Mode: Standard Letter

RADT 24015 CLINICAL EDUCATION V 3 Credit Hours

Continuation of RADT 14085 with emphasis on clinical practice of content of previous clinical courses. More emphasis on independent clinical practice previously mastered. Students are assigned to clinical education setting (22.5 hours per week) and rotate to special medical imaging areas.

Prerequisite: RADT 14085.

Schedule Type: Clinical Laboratory, Laboratory

Contact Hours: 7.5 lab, 15 other

Grade Mode: Standard Letter

RADT 24016 IMAGING PHYSICS 3 Credit Hours

Introduction to general physics, units and measurement, atomic structure, electromagnetic energy, x-ray production, electrostatics, magnetism and electromagnetic devices, x-ray tube and x-ray circuitry.

Prerequisite: RADT 14018.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

RADT 24025 CLINICAL EDUCATION VI 3 Credit Hours

Continuation of Clinical Education V with emphasis on mastery of clinical procedures. Students assigned to clinical education site 22.5 hours per week.

Prerequisite: None.

Schedule Type: Clinical Laboratory, Laboratory

Contact Hours: 7.5 lab, 15 other

Grade Mode: Standard Letter-IP

RADT 24028 RADIOLOGIC PATHOLOGY 3 Credit Hours

Disease process and the pathologies associated with each anatomical system are described and their application to all modalities in the radiologic and imaging sciences.

Prerequisite: RADT 24015.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

RADT 24048 RADIOGRAPHIC TECHNIQUES 3 Credit Hours

Review of radiologic technology to include patient care, anatomy and physiology, radiologic procedures, equipment and image production, radiologic physics, and radiation protection in preparation for the radiography certification exam.

Prerequisite: None.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

RADT 24058 DIVERSIFIED EMPLOYMENT SKILLS 3 Credit Hours

Course features multiple topics in medical imaging to prepare graduates for employment in healthcare.

Prerequisite: RADT 14085.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

RADT 24068 RADIOLOGY AND IMAGING EXPLORATION 2 Credit Hours

The course is designed for both the non-major or pre-radiology major learner. The course will provide an overview of the major medical imaging sciences. It will include the historical development of the area, indications/contraindications, strengths and weaknesses and basic image identification. It includes but is not limited to: Radiography, Fluoroscopy, Mammography, Interventional Radiology, Computed Tomography (CT), Magnetic Resonance Imaging (MRI), Diagnostic Medical Sonography, Nuclear Medicine and Radiation Therapy.

Prerequisite: None.

Schedule Type: Lecture

Contact Hours: 2 lecture

Grade Mode: Standard Letter

RADT 24096 INDIVIDUAL INVESTIGATION IN RADIOLOGIC TECHNOLOGY 1 Credit Hour

Directed research of special interest or need in the student's program. A research paper will be written on an assigned topic in radiologic technology.

Prerequisite: Admission to technical study; and RADT 14003 with a minimum C grade; and radiologic technology major.

Schedule Type: Individual Investigation

Contact Hours: 3 other

Grade Mode: Standard Letter

RADT 24196 INDIVIDUAL INVESTIGATION IN ADVANCED READINGS IN RADIOLOGIC TECHNOLOGY 3 Credit Hours

(Repeatable for credit) Course permits scholarly activities for research, study and summary of medical journal articles. Information aids in understanding recent advancements in medical imaging.

Prerequisite: Admission to technical study; and radiologic technology major.

Schedule Type: Individual Investigation

Contact Hours: 3 other

Grade Mode: Standard Letter

RADT 25010 MAMMOGRAPHIC EQUIPMENT, QUALITY ASSURANCE AND PROCEDURES 3 Credit Hours

Course provides students with foundational concepts of mammographic quality assurance testing and the factors that govern and influence quality control equipment. Students learn how to construct a quality assurance program for a mammography program following the American College of Radiology and Mammography Quality Standards Act guidelines. Students also gain an understanding of various radiographic imaging procedures, including routine localization, specimen radiography, ultrasound of the breast, cyst aspiration, fine needle aspiration cytology and breast magnetic resonance imaging. Course also covers minimally invasive mammographic needle breast biopsy procedures, core biopsy, stereotactic procedures and interventional procedures used in breast cancer diagnosis.

Prerequisite: RADT 14085.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

RADT 25011 MAMMOGRAPHIC POSITIONING AND PATIENT CARE 3 Credit Hours

Course provides the fundamentals of mammography positioning. Students study breast anatomy and physiology and pathologic changes and the relevance of these to mammographic appearance and positioning, including correlation to the radiographic appearance of normal anatomy and benign and malignant mammographic findings. Course also provides the basic concepts in patient assessment and evaluation in mammography. It includes effective communication, patient safety/comfort, patient preparation, professionalism, ethics and critical thinking. Course content emphasizes the importance of establishing a positive relationship with the patient, addressing their psychological needs and providing patient information related to the procedure.

Prerequisite: RADT 14085.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

RADT 25092 MAMMOGRAPHY CLINICAL (ELR) 2 Credit Hours

(Repeatable for credit) Course provides students with the clinical experience required to become competent in performing mammographic procedures, mammographic image critique and time to perform required quality control testing. Students learn to complete the entire examination, from request and chart review to patient screening; explaining the procedure to the patient; positioning the patient; using required accessories; setting the equipment; making a correct exposure; processing the image; completing the paperwork; using the computer to store patient data; and maintaining quality control. At successful conclusion, students obtain documentation of clinical competence as required by the ARRT for eligibility to take the advanced level examination in mammography. Students must perform 25 supervised examinations required by the initial MQSA mammography requirements and 75 mammographic examinations (screening and/or diagnostic). Examinations must be performed on patients (not phantoms or simulations).

Prerequisite: RADT 14085.

Schedule Type: Practical Experience

Contact Hours: 6 other

Grade Mode: Standard Letter

Attributes: Experiential Learning Requirement