RADT-RADIOLOGIC TECHNOLOGY (RADT)

RADT 100. Introduction to Radiologic Technology and Patient Care
3 Credits (3)
Overview of the profession, including ethics, terminology, and basic radiation protection. Addresses basic and specialized procedures and topics related to the care of the patient. Restricted to: Community Colleges only. Restricted to Majors.

Learning Outcomes

1. Students will demonstrate the ability to safely produce diagnostic radiographic images Students will demonstrate effective communication skills Students will accurately document/record data in accordance with clinical site policies and procedures. Students will demonstrate the ability to use independent judgment. Students will conduct themselves in a professional manner to function effectively as a member of the healthcare team.

RADT 101. Radiographic Positioning I
2 Credits (2)
Covers radiographic procedure and positioning concepts, techniques, terminology, and mechanics related to the thorax, abdomen, extremities, spine and pelvis. Includes positioning lab and clinical observation.

Learning Outcomes

1. Students will demonstrate the ability to safely produce diagnostic radiographic images. Students will be able to appropriately position patients, identify radiographic anatomy and pathological conditions. Students will demonstrate effective communication skills. (CO-three, CO-four alignment) Students will accurately document/record data in accordance with clinical site policies and procedures. Students will demonstrate the ability to use independent judgement. Students will analyze radiographic images for technical and positioning accuracy to make modifications as needed.

RADT 101 L. Radiographic Positioning I Applied Clinical Skills
1 Credit (3P)
Applied clinical skills lab in radiographic procedures and positioning concepts, techniques, terminology, and mechanics related to the thorax, abdomen, extremities, spine and pelvis.
Corequisite: RADT 101.

Learning Outcomes

1. Students will demonstrate the ability to safely produce diagnostic radiographic images. Students will be able to appropriately position patients, identify radiographic anatomy and pathological conditions. Students will demonstrate effective communication skills. (CO-three, CO-four alignment) Students will accurately document/record data in accordance with clinical site policies and procedures. Students will demonstrate the ability to use independent judgement. Students will analyze radiographic images for technical and positioning accuracy to make modifications as needed.

RADT 102. Radiographic Positioning II
2 Credits (2)
Continuation of RADT 101. Includes skull, gastrointestinal, urinary, reproductive, biliary systems, and more advanced skeletal positions. Includes positioning lab and clinical observation.Restricted to: Dona Ana campus only. Restricted to Majors.
Prerequisite: RADT 101.

Learning Outcomes

1. Students will demonstrate the ability to safely produce quality diagnostic radiographic images. Students will be able to appropriately position patients, identify radiographic anatomy and pathological conditions. Students will demonstrate effective communication skills. Students will accurately document/record data in accordance with clinical site policies and procedures. Students will demonstrate the ability to use independent judgment. Students will analyze radiographic images for technical and positioning accuracy to make modifications as needed. Students will conduct themselves in a professional manner to function effectively as a member of the healthcare team.

RADT 102 L. Radiographic Positioning II Applied Clinical Skills
1 Credit (3P)
Continuation of RADT 101. Applied Clinical Skills lab: Includes skull, gastrointestinal, urinary, reproductive, biliary systems, and more advanced skeletal positions.
Corequisite: RADT 102.

Learning Outcomes

1. Students will demonstrate the ability to safely produce quality diagnostic radiographic images. Students will be able to appropriately position patients, identify radiographic anatomy and pathological conditions. Students will demonstrate effective communication skills. Students will accurately document/record data in accordance with clinical site policies and procedures. Students will demonstrate the ability to use independent judgment. Students will analyze radiographic images for technical and positioning accuracy to make modifications as needed. Students will conduct themselves in a professional manner to function effectively as a member of the healthcare team.

RADT 103. Introduction to Radiographic Imaging
2 Credits (2)
Provides the student with an in-depth knowledge of radiographic exposure technique and the factors affecting radiographic image quality. Restricted to majors.

Learning Outcomes

1. Students will demonstrate the ability to safely produce quality diagnostic radiographic images. Students will demonstrate effective communication skills. Students will analyze radiographic images for technical and positioning accuracy to make modifications as needed.

RADT 103 L. Intro to Radiographic Imaging Applied Clinic Skills
1 Credit (3P)
Applied clinical skills lab to provide the student with an in-depth knowledge of radiographic exposure technique and the factors affecting radiographic image quality. Restricted to majors.
Corequisite: RADT 103.

Learning Outcomes

1. Students will demonstrate the ability to safely produce quality diagnostic radiographic images. Students will demonstrate effective communication skills. Students will analyze radiographic images for technical and positioning accuracy to make modifications as needed.

RADT 104. Special Radiologic Modalities
2-3 Credits (2-3)
Discussion of various special procedures used in medical imaging such as, angiography, ultrasound, computerized tomography, magnetic resonance imaging, digital imaging, nuclear medicine, radiation therapy, etc.
Prerequisite: RADT 103.
Learning Outcomes
1. Students will be able to appropriately position patients and to identify radiographic anatomy and pathological conditions. Students will demonstrate appropriate and effective communication skills. Students will conduct themselves in an ethical and professional manner and function effectively as a member of the healthcare team in accordance with the American Registry of Radiologic Technologists (ARRT) Standards and the American Society of Radiologic Technologist (ASRT) Code of Ethics.

RADT 105. Radiographic Physics and Equipment
3 Credits (3)
Fundamentals of radiographic physics and imaging theory. Includes the atom, electromagnetism, x-ray production and interaction, electric x-ray circuitry, digital fluoroscopic units and digital x-ray equipment, and quality assurance/control. With brief overview of mammography, computed tomography (CT), and MRI imaging. May be repeated up to 3 credits.
Prerequisite/Corequisite: RADT 103.
Learning Outcomes
1. Students will have knowledge of and be able to operate radiographic equipment to produce quality diagnostic radiographic images Students will demonstrate radiation safety application through ALARA Principles

RADT 110. Radiographic Pathology
3 Credits (3)
Overview of pathology demonstrated by radiographic procedures. Restricted to RADT majors.
Prerequisite: RADT 154.
Learning Outcomes
1. Students will be able to appropriately position patients based on pathological findings and suspicions Students will be able to identify radiographic anatomy and pathological conditions on radiographs. Students will demonstrate the ability to make decisions and use independent judgment based on human pathologies.

RADT 111. Radiographic Positioning I Practicum
1 Credit (4P)
Practicum in radiographic procedures and positioning concepts, techniques, terminology, and mechanics related to the thorax, abdomen, extremities, spine and pelvis. Includes
Corequisite: RADT 101.
Learning Outcomes
1. Students will demonstrate the ability to safely produce diagnostic radiographic images. Students will be able to appropriately position patients, identify radiographic anatomy and pathological conditions. Students will demonstrate effective communication skills. (CO-three, CO-four alignment) Students will accurately document/record data in accordance with clinical site policies and procedures. Students will demonstrate the ability to use independent judgement. Students will analyze radiographic images for technical and positioning accuracy to make modifications as needed.

RADT 112. Radiographic Positioning II Practicums
1 Credit (4P)
Continuation of RADT 101. Practicum: Includes skull, gastrointestinal, urinary, reproductive, biliary systems, and more advanced skeletal positions.
Corequisite: RADT 102.
Learning Outcomes
1. Students will demonstrate the ability to safely produce quality diagnostic radiographic images. Students will be able to appropriately position patients, identify radiographic anatomy and pathological conditions. Students will demonstrate effective communication skills. Students will accurately document/record data in accordance with clinical site policies and procedures. Students will demonstrate the ability to use independent judgment. Students will analyze radiographic images for technical and positioning accuracy to make modifications as needed. Students will conduct themselves in a professional manner to function effectively as a member of the healthcare team.

RADT 154. Radiographic Anatomy and Physiology
3 Credits (3)
Basic A&P for radiographic application. Includes a systems approach to body structures and organs as they relate to anatomical projections, radiographic identification, and various imaging modalities. Restricted to: RADT majors. Restricted to: Community Colleges only.
Prerequisite(s): AHS 153 or AHS 140 or BIOL 2210 or BIOL 1130, or consent of instructor.

RADT 156. Independent Study
1-6 Credits (1-6)
Individual studies/research on topics related to the radiological sciences. May be repeated for a maximum of 6 credits. Restricted to: Community Colleges only.

RADT 190. CT Equipment and Methodology
3 Credits (3)
Skill development in the operation of computed tomographic equipment, focusing on routine protocols, image quality, and quality assurance and radiation protection. May be repeated up to 3 credits. Restricted to: CTOM or RADT majors. Restricted to Community Colleges campuses only.

RADT 200. Radiation Biology and Protection
2 Credits (2)
Biological effects of ionizing radiation on cells and tissues. Includes radiation measurements, policies and protection measures for self, patients, and others. Restricted to majors. Restricted to: Community Colleges only.
Prerequisite(s): RADT 103.

RADT 201. Clinical Practicum I
4 Credits (32P)
Supervised practice in a radiology department under direct supervision of a registered technician. Includes film critiques.
Prerequisite: RADT 105.
Learning Outcomes
1. Students will demonstrate the ability to safely produce diagnostic radiographic images. Students will be able to appropriately position patients, identify radiographic anatomy and pathological conditions. Students will demonstrate effective communication skills. Students will accurately document/record data in accordance with clinical site policies and procedures. Students will demonstrate the ability to use independent judgement. Students will analyze radiographic images for technical and positioning accuracy to make modifications as needed. Students will conduct themselves in a professional manner to function effectively as a member of the healthcare team. Students will identify various opportunities for professional growth within medical imaging sciences.

RADT 202. Clinical Practicum II
6-11 Credits (32P)
Continuation of RADT 201. Student will work under indirect supervision of registered personnel.
Prerequisite: RADT 201.
Learning Outcomes
1. Students will demonstrate the ability to safely produce diagnostic radiographic images. Students will be able to appropriately position patients, identify radiographic anatomy and pathological conditions. Students will demonstrate effective communication skills. Students will accurately document/record data in accordance with clinical site policies and procedures. Students will demonstrate the ability to use independent judgement. Students will analyze radiographic images for technical and positioning accuracy to make modifications as needed. Students will conduct themselves in a professional manner to function effectively as a member of the healthcare team. Students will identify various opportunities for professional growth within medical imaging sciences.

RADT 203. Clinical Practicum III
3-11 Credits (32-33P)
Continuation of RADT 202:Student will work under indirect supervision of registered personnel.
Prerequisite: RADT 202.
Learning Outcomes
1. Students will demonstrate the ability to safely produce diagnostic radiographic images. Students will be able to appropriately position patients, identify radiographic anatomy and pathological conditions. Students will demonstrate effective communication skills. Students will accurately document/record data in accordance with clinical site policies and procedures. Students will demonstrate the ability to use independent judgement. Students will analyze radiographic images for technical and positioning accuracy to make modifications as needed. Students will conduct themselves in a professional manner to function effectively as a member of the healthcare team. Students will identify various opportunities for professional growth within medical imaging sciences.

RADT 205. Radiographic Image Critique
1-2 Credits (1-2)
Review of radiographs produced in clinical settings to evaluate anatomy and technical issues. Restricted to RADT majors.
Prerequisite: RADT 201.
Learning Outcomes
1. Students will demonstrate the ability to safely produce diagnostic radiographic images. Students will be able to appropriately position patients, identify radiographic anatomy and pathological conditions. Students will demonstrate effective communication skills. Students will accurately document/record data in accordance with clinical site policies and procedures Students will demonstrate the ability to use independent judgement. Students will analyze radiographic images for technical and positioning accuracy to make modifications as needed. Students will conduct themselves in a professional manner to function effectively as a member of the healthcare team.

RADT 206. Applied Radiographic Procedures
2-3 Credits (2-3)
Capstone course : Advanced course which integrates the principles and techniques of radiologic technology. Restricted to RADT Majors. May be repeated up to 2 credits.
Prerequisite: RADT 202.
Learning Outcomes
1. Students will demonstrate the ability to safely produce quality diagnostic radiographic images. Students will be able to appropriately position patients, identify radiographic anatomy and pathological conditions. Students will demonstrate effective communication skills. Students will accurately document/record data in accordance with clinical site policies and procedures. Students will demonstrate the ability to use independent judgement. Students will analyze radiographic images for technical and positioning accuracy to make modifications as needed. Students will conduct themselves in a professional manner to function effectively as a member of the healthcare team.

RADT 207. Cross Sectional Anatomy for Medical Imaging
3 Credits (3)
Anatomic relationships that are present under various sectional orientations as depicted by computed tomography or magnetic resonance imaging. May be repeated up to 3 credits. Restricted to: CTOM or RADT majors. Restricted to Community Colleges campuses only.

RADT 208. Practicum I (Computed Tomography)
2 Credits (8P)
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. Direct supervision is provided by the clinic professional.

Learning Outcomes

1. Navigate this Canvas course and demonstrate understanding of clinic and course expectations by attending live Orientation and completing the Syllabus Quiz with at least a ninety percent. (CO-one) Communicate effectively with patients to successfully perform CT procedures. (CO-two): Examples of communication include: gathering patient history and any known allergies, screening for pre-existing conditions such as diabetes, gaining an understanding the location of the patient's pain (if applicable) and what may be the cause of it (i.e. trauma, strain, family history, etc.), and ensuring the patient's exam is warranted and is not a duplicate). Properly prepare patients for the type of exam they are scheduled for. (CO-three) Demonstrate competence in intravenous procedures. (CO-four). Competence includes: checking blood for kidney function and understanding normal vs. out-of-range lab values, safely and cleanly starting an IV, choosing the correct type and amount of contrast media, choosing the correct method of injection (either by hand or at a controlled pace via a bolus injector), monitoring the patient during and after the IV injection, and responding to any reactions. Recognize iodinated contrast composition, risks, and proper use (including bolus timing) according to type of CT procedure. (CO-five) Follow radiation safety and dosimetry standards for patient care. (CO-six) Select appropriate CT protocols for respective patient exams. (CO-seven) Exhibit competence in CT physics and instrumentation through safe CT scanner operation. (CO-eight) Perform complete, diagnostic quality CT imaging procedures. (CO-nine)

RADT 209. Practicum II (Computed Tomography)
2 Credits (8P)
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. Direct supervision is provided by the clinic professional. (Capstone Course).

Learning Outcomes

1. To qualify as a complete, diagnostic quality CT imaging procedure the candidate must demonstrate appropriate: Evaluation of requisition and/or medical record; Preparation of examination room; Identification of patient; Patient assessment and education concerning the procedure; Documentation of patient history including allergies; Patient position; Protocol selection; Parameter selection; Image display, filming and archiving; Documentation of procedure, treatment and patient data in appropriate record; Patient discharge with post-procedure instructions; Standard precautions /radiation protection; Preparation and/or administration of contrast media; Initiate scan and evaluate the resulting images for: Image quality (e.g., motion, artifacts, noise); Optimal demonstration of anatomic region (e.g, delayed imaging, reconstruction spacing, algorithm, slice thickness); Exam completeness

RADT 210. Practicum III (Computed Tomography)
2 Credits (8P)
Continuation of RADT 209: Advanced health-related work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. Direct supervision is provided by the clinic professional. Upon completion, students will be able to assume most of the duties of an experienced imaging professional in Computed Tomography.
Prerequisite: RADT 209.

Learning Outcomes

1. To qualify as a complete, diagnostic quality CT imaging procedure the candidate must demonstrate appropriate: Evaluation of requisition and/or medical record; Preparation of examination room; Identification of patient; Patient assessment and education concerning the procedure; Documentation of patient history including allergies; Patient position; Protocol selection; Parameter selection; Image display, filming and archiving; Documentation of procedure, treatment and patient data in appropriate record; Patient discharge with post-procedure instructions; Standard precautions /radiation protection; Preparation and/or administration of contrast media; Initiate scan and evaluate the resulting images for: Image quality (e.g., motion, artifacts, noise); Optimal demonstration of anatomic region (e.g, delayed imaging, reconstruction spacing, algorithm, slice thickness); Exam completeness