

RADIOGRAPHY

For the Radiography program, please see the Medical Imaging section of the catalog.

RAD 100. Introduction to Radiography. 1 Credit.

Introduces the healthcare team and various aspects of radiological sciences. Includes medical ethics, professional organizations, medicolegal considerations, communication, cultural diversity, basic radiation protection, fundamental technical components, radiological history, healthcare organizations, and medical specialties. Prerequisite: Department permission required.

RAD 101. Radiographic Positioning I. 3.5 Credits.

Introduces basic positioning techniques used in radiography of the respiratory system, abdomen, upper, and lower extremities. Includes a lab experience with peer positioning, film critique, anatomical identification, pathologies, and an energized section using phantoms. Prerequisite: RAD 100.

RAD 102. Radiographic Positioning II. 3.5 Credits.

Covers basic positioning techniques used in radiography of the digestive system, urinary system, and the upper and lower extremities. Includes a lab experience with peer positioning, film critique, anatomical identification, pathologies, and an energized section using phantoms. Prerequisite: RAD 101.

RAD 103. Radiographic Positioning III. 3.5 Credits.

Covers basic positioning techniques used in radiography of the bony thorax, spinal column, and pelvic girdle. Includes a lab experience with peer positioning, film critique, anatomical identification, pathologies, and an energized section using phantoms. Prerequisite: RAD 102.

RAD 105. Methods of Patient Care. 3 Credits.

Covers general care of patients in radiology department. Emphasizes radiographer's role regarding patient care with cardiac arrest, vital signs, accident victims, bedside procedures, aseptic techniques, contagious disease control, blood borne pathogens, venipuncture, administration of medication and contrast media reactions. Introduces fundamentals of urinary catheterization. Lab provides application of theory. Department permission required.

RAD 106. Radiographic Equipment I. 4 Credits.

Covers fundamental concepts of energy and measurements, atomic structures, molecules, electricity, magnetism, electromagnetism, transformers, and rectifiers in relation to radiographic equipment. Prerequisite: RAD 100.

RAD 107. Radiographic Equipment II. 4 Credits.

Covers the safe operation of generators, timers, x-ray tubes, recording devices, physiology of sight, image intensifiers, television camera/monitors, digital radiography, tomograph, teleradiography, mobile radiography and fluoroscopic equipment. Prerequisite: RAD 106.

RAD 110. Radiographic Clinic I. 4.5 Credits.

Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes equipment manipulation and operation, performance of radiological imaging procedures, application of radiation protection concepts, medicolegal and ethical standards, record keeping, and patient care skills. Prerequisite: RAD 100.

RAD 115. Principles of Exposure I. 3 Credits.

Covers production and control of scattered radiation, stereo radiography, grid technique, filtration, half value layer, magnification, contrast and density principles. Includes a lab experience for applying the theories using energized equipment and test tools. Prerequisite: RAD 106.

RAD 120. Radiographic Clinic II. 4.5 Credits.

Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes knowledge and application of fluoroscopic equipment manipulation and operation, radiological and fluoroscopic imaging procedures, radiation protection, medicolegal and ethical protocol, record keeping and patient care. Requires clinical competencies, objectives, performance assessment and attendance. Prerequisite: RAD 110.

RAD 122. Radiation Protection - Biology. 3 Credits.

Introduces biological effects of ionizing radiation and application of principles to minimize the risks of man-made radiation. Examines standards and requirements determined by government guidelines. Department permission required. Prerequisite: RAD 106.

RAD 130. Radiographic Clinic III. 4.5 Credits.

Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes application of equipment manipulation and operation, mobile c-arm fluoroscopic and radiographic imaging procedures, radiation protection, medicolegal and ethical protocol, recordkeeping and patient care. Prerequisite: RAD 120.

RAD 132. Radiographic Image Production. 3 Credits.

Introduces theory and practical application of digital systems, computed radiography (CR), direct radiography (DR), image processing, image quality, subtraction, and quality assurance. Includes a lab using test tools with energized equipment. Prerequisite: RAD 115.

RAD 140. Radiographic Clinic IV. 10 Credits.

Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes application of equipment manipulation and operation, image critiques, radiological imaging procedures, radiation protection, medicolegal and ethical protocols, record keeping and patient care. Prerequisite: RAD 130.

RAD 203. Applied Radiography Topics. 2 Credits.

Examines legal principles in radiography by looking at a variety of topics related to medical/professional ethics. Includes discussions on the code of ethics and bioethical issues in radiography. Covers the attitudes and communication knowledge needed to develop critical thinking skills in patient care with diverse populations. Prerequisite: RAD 140.

RAD 205. Radiographic Positioning IV. 3 Credits.

Covers basic positioning of the skull, paranasal sinuses, facial bones, temporal bone, mastoids and mandible. Includes lab experience to practice peer positioning, image critique, anatomical identification, pathologies and energized imaging with the use of phantoms. Includes trauma and non-trauma scenarios. Prerequisite: RAD 103.

RAD 206. Survey of Medical Imaging Diseases. 3 Credits.

Covers basic principles and processes of disease, characteristics of neoplasms and systems with related disease as it applies to the radiological science imaging. Department permission required.

RAD 209. Advanced Radiological Procedures. 2 Credits.

Covers contrast media, fluoroscopic exams and special procedures involving the following systems: CNS, biliary, mammary, female reproductive, respiratory, pancreatic, and salivary. Covers techniques and equipment used to catheterize the vascular system, indications for various vascular procedures, contrast agents used for specific procedures, and selective vascular anatomy. Prerequisite: RAD 105.

RAD 210. Radiographic Clinic V. 7 Credits.

Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes application of equipment manipulation and operation, radiological imaging procedures, radiation protection, medicolegal and ethical protocol, recordkeeping and patient care. Includes an observation through the Angiography/Cardiac Cath Lab suite. Prerequisite: RAD 140.

RAD 211A. The Study of Imaging Modalities. 2 Credits.

Introduces computed tomography, magnetic resonance, nuclear medicine, sonography, and radiation therapy. Prerequisite: RAD 107 and department permission.

RAD 216. Radiography Registry Review. 2 Credits.

Provides review of the major content areas appearing in the national certification examination. Reviews radiation protection, equipment operation and maintenance, image production and evaluation, radiographic procedures and patient care. Requires the completion of unit examinations and at least one mock registry exam. Prerequisite: Department permission required.

RAD 220. Radiographic Clinic VI. 7 Credits.

Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes application of equipment manipulation and operation, radiological imaging procedures, radiation protection, medicolegal and ethical protocol, record keeping and patient care. Includes a rotation through all other medical imaging modalities. Prerequisite: RAD 210.

RAD 230. Radiographic Clinic VII. 9 Credits.

Provides clinical education experience in an affiliated hospital radiology department under the supervision of registered radiographer and radiologist. Includes application of equipment manipulation and operation, radiological imaging procedures, radiation protection, medicolegal and ethical protocol, recordkeeping, and patient care. Includes a three-week rotation to another clinic site. Prerequisite: RAD 220.