RADIOLOGIC SCIENCES (RADS)

RADS 320 Introduction to Radiologic Technology and Patient Care3 Credits
Introduction to radiologic technology with emphasis on the education program, the profession, and the healthcare delivery system. Fundamentals of patient care including ethics, professional conduct, communication, radiation protection, and patient management. Study of medical terminology is included.
Prerequisites: Acceptance into the Radiologic Sciences program.
Corequisites: RADS 320L.

RADS 320L Introduction to Radiologic Technology and Patient Care Laboratory1 Credit
Lab component required for RADS 320.
Corequisites: RADS 320.

RADS 321 Radiographic Anatomy and Positioning I2 Credits
Exploration of every phase of radiography in an integrated coverage of the appendicular skeletal system, abdomen, thoracic, viscera, and body systems. Radiographic anatomy, positioning, and procedures are discussed and applied in the energized laboratory.
Corequisites: RADS 321L.

RADS 321L Radiographic Anatomy and Positioning I Laboratory1 Credit
Lab component required for RADS 321.
Prerequisites: Acceptance into the Radiologic Sciences program.
Corequisites: RADS 321.

RADS 322 Principles of Radiographic Exposure2 Credits
Exploration of fundamental factors that govern and influence the radiographic image, including equipment, accessory devices, and exposure mathematics. Technical and prime exposure factors are discussed and applied in the energized laboratory.
Prerequisites: Acceptance into the Radiologic Sciences program.
Corequisites: RADS 322L.

RADS 322L Principles of Radiographic Exposure Laboratory1 Credit
Lab component required for RADS 322.
Prerequisites: Acceptance into the Radiologic Sciences program.
Corequisites: RADS 322.

RADS 323 Digital Imaging2 Credits
Exploration of components, principles, and operation of digital imaging systems found in diagnostic radiology. Factors affecting image acquisition, display, archiving, and retrieval are discussed.
Prerequisites: Acceptance into the Radiologic Sciences program.

RADS 329 Radiographic Clinical Experience I1 Credit
Introduction to the radiographic clinical education experience in the clinical education site. Designed to provide patient care and assessment, competent performance of radiologic imaging, and total quality management. Levels of competency and outcomes measurement ensure the well-being of the patient prior to, during, and following the radiologic procedure.
Prerequisites: Acceptance into the Radiologic Sciences program.

RADS 331 Radiographic Anatomy and Positioning II2 Credits
Continuation of RADS 321 with instruction in every phase of radiography of the spinal column, digestive system, urinary system, cranium, and facial bones. Radiographic anatomy, positioning, and procedures are discussed and applied in the energized laboratory.
Prerequisites: Acceptance into the Radiologic Sciences program.
Corequisites: RADS 331L.

RADS 331L Radiographic Anatomy and Positioning II Laboratory1 Credit
Lab component required for RADS 331.
Prerequisites: Acceptance into the Bachelor of Science in Radiologic Sciences program.
Corequisites: RADS 331.

RADS 332 Specialized Imaging2 Credits
Introduction to medical imaging modalities and treatment, including equipment, dose differences, types of radiation, patient preparations, indications, and contraindications. Educational and certification requirements are included. Mobile and trauma radiography also are discussed. The course includes an introduction to sectional anatomy of head/brain, chest, mediastinum, abdomen, pelvis, and musculoskeletal system.
Prerequisites: Acceptance into the Radiologic Sciences program.

RADS 333 Imaging Equipment and Quality Assurance2 Credits
Introduction to radiographic, fluoroscopic, and mobile equipment requirements and design. Applied practice of equipment maintenance, quality control, and testing performed in lab.
Prerequisites: Acceptance into the Radiologic Sciences program.
Corequisites: RADS 333L.

RADS 333L Imaging Equipment and Quality Assurance Laboratory1 Credit
Lab component required for RADS 333.
Prerequisites: Acceptance into the Radiologic Sciences program.
Corequisites: RADS 333.

RADS 334 Image Analysis I2 Credits
Principles of analyzing radiographic images of the appendicular skeleton, chest, and abdomen. The importance of optimal imaging standards, as well as discussion of a problem-solving technique for image evaluation and the factors that can affect image quality are also addressed. Actual images will be included for analysis.
Prerequisites: Acceptance into the Radiologic Sciences program.

RADS 335 Radiation Biology and Protection2 Credits
Principles of radiation interaction in cells and factors affecting cell response to radiation. The course also addresses acute and chronic effects of radiation, dose equivalent limits, and regulatory involvement. Responsibility by the radiographer to patients, personnel, the public, and self are also discussed.
Prerequisites: Acceptance into the Radiologic Sciences program.

RADS 339 Radiographic Clinical Experience II4 Credits
Exploration of additional concepts correlating skills with academic courses in radiographic clinical education. Designed to provide patient care and assessment, competent performance of radiologic imaging, and total quality management. Levels of competency and outcomes measurement ensure the well-being of the patient prior to, during, and following the radiologic procedure.
Prerequisites: Acceptance into the Radiologic Sciences program.

RADS 354 Image Analysis II2 Credits
Principles of analyzing radiographic images of the axial skeleton (including the spine, sternum, ribs, and cranium), facial bones, paranasal sinuses, and the digestive system. The importance of optimal imaging standards, as well as discussion of a problem-solving technique for image evaluation and the factors that can affect image quality are also addressed. Actual images will be included for analysis.
Prerequisites: Acceptance into the Radiologic Sciences program.

RADS 449 Radiographic Clinical Experience III6 Credits
Further exploration of clinical education. Designed to provide patient care and assessment, competent performance of radiologic imaging and total quality management. Levels of competency and outcomes measurement ensure the well-being of the patient prior to, during, and following the radiologic procedure.
Prerequisites: Acceptance into the Radiologic Sciences program.

RADS 451 Imaging Pathology3 Credits
Introduction to concepts related to the disease process with emphasis on the radiographic appearance of disease.
Prerequisites: Acceptance into the Radiologic Sciences program.

RADS 452 Sectional Anatomy3 Credits
Exploration of the location and identification of structures in multiple anatomical planes. Function, orientation, imaging, and pathology will be discussed.
Prerequisites: Acceptance into the Radiologic Sciences program.

RADS 453 Advanced Patient Care3 Credits
Development of patient care knowledge and skills required for advanced medical imaging procedures. Focus is on legal and ethical considerations, drug administration, patient monitoring, emergency care, and sterile technique.
Prerequisites: Acceptance into the Radiologic Sciences program.

RADS 459 Radiographic Clinical Experience IV5 Credits
Further exploration of clinical education. Designed to provide patient care and assessment, competent performance of radiologic imaging and total quality management. Levels of competency and outcomes measurement ensure the well-being of the patient prior to, during, and following the radiologic procedure.
Prerequisites: Acceptance into the Radiologic Sciences program.

RADS 460 Principles of Magnetic Resonance Imaging2 Credits
Introduction to the operation of a magnetic resonance imaging (MRI) scanner. Includes magnetic resonance imaging instrumentation, safety, physics, and contract media. Does not include clinical experience.
Prerequisites: Acceptance into the Bachelor of Applied Science program or Radiologic Sciences MRI Certificate Program; registered radiologic technologist with minimum associate degree.

RADS 461 Principles of Computed Tomography2 Credits
Introduction to the operation of computed tomography equipment. Includes instrumentation, image display, radiation safety, and contrast media. Does not include clinical experience.
Prerequisites: Acceptance into the Radiologic Sciences program, or CT Certificate program.

RADS 462 Leadership and Management3 Credits
Identification of skills necessary to work within an effective interdisciplinary health care team. Includes principles of leadership, quality management, and health care law.
Prerequisites: Acceptance into the Radiologic Sciences program.

RADS 463 Information Literacy in Radiologic Sciences3 Credits
Development of life-long learning skills necessary to function competently in the continually changing medical imaging environment. Content includes intellectual inquiry, information literacy, and scholarly research methods.
Prerequisites: Acceptance into the Radiologic Sciences program.

RADS 464 Senior Capstone3 Credits
Synthesis of radiologic science concepts, principles, and procedures. Includes development of resume and interview skills.
Prerequisites: Acceptance into the Radiologic Sciences program.

RADS 469 Radiographic Clinical Experience V5 Credits
Further exploration of clinical education. Designed to provide patient care and assessment, competent performance of radiologic imaging and total quality management. Levels of competency and outcomes measurement ensure the well-being of the patient prior to, during, and following the radiologic procedure.
Prerequisites: Acceptance into the Radiologic Sciences program.
Terms Typically Offered: Spring.

RADS 470 Applied Magnetic Resonance Imaging3 Credits
Continuation of RADS 460. Development of knowledge and cognitive skills underlying the intelligent performance of tasks typically required of technologists who perform magnetic resonance imaging procedures. Includes patient care, image production, procedures, artifacts, and quality control. Does not include clinical experience.
Prerequisites: RADS 460.

RADS 471 Applied Computed Tomography3 Credits
Continuation of RADS 461. Development of knowledge and cognitive skills underlying the intelligent performance of tasks typically required of technologists who perform computed tomography procedures. Includes patient care and safety, imaging procedures, and image assessment. Does not include clinical experience.
Prerequisites: RADS 461.

RADS 480 Clinical Specialization I4 Credits
Demonstration of clinical competency in Radiologic Science imaging modality. Practical experience gained and demonstrations of competency in positioning, machine control, patient care and image quality in chosen modality.
Prerequisites: RADS 460 or RADS 461 (may be taken concurrently).

RADS 490 Clinical Specialization II4 Credits
Continuation of RADS 480. Demonstration of clinical competency in Radiologic Science imaging modality. Practical experience gained and demonstrations of competency in positioning, machine control, patient care and image quality in chosen modality.
Prerequisites: RADS 470 or RADS 471 (may be taken concurrently); and RADS 480.

RADS 495 Independent Study1-3 Credits
Course may be taken multiple times up to maximum of 6 credit hours.