



St. Mary's Hospital School of Medical Imaging

First Semester

RAD 1101 Introduction to Radiologic Technology, Patient Care, Ethics & Law 3 Credits

This course serves as an introduction to the medical field, specifically, Medical Imaging. This course prepares students to provide basic patient care; such as measuring vital signs, aseptic and sterile technique, venipuncture, recognizing and responding to emergency and non-emergency situations, treatment of allergic reactions, body mechanics, transfer techniques, and other topics needed by the radiologic technologist. Students also learn about types of medications, contrast agents, and drugs that affect patients. Additionally, students learn about cultural issues that affect patient care. Testing for this course includes practical and written testing. This course requires program admission as a prerequisite.

PRO 1101 Radiographic Procedures I & Lab 4 Credits

This course is a coordinated classroom and lab in which students will learn foundational radiographic positioning. Emphasis will be placed on the production of quality radiographs, and laboratory experience will demonstrate the application of theoretical principles and concepts. Topics include: introduction to radiographic procedures; positioning terminology; positioning considerations; procedures, anatomy, and topographical anatomy related to chest and abdomen cavities, bony thorax, upper extremities, shoulder girdle, and lower extremities. Students will develop critical thinking skills and adaptive techniques for use on difficult or non-standard patients. Methods of imaging using standard radiographic/ fluoroscopic rooms are covered. Radiation safety methods are taught with each unit of study. During lab, students simulate performing radiographic procedures on fellow classmates. Students will utilize energized imaging equipment to demonstrate proper positioning and positioning errors using phantom body parts. Testing for this course includes practical and written testing. This course requires program admission, Human Anatomy & Physiology I and Lab, and Human Anatomy & Physiology II and Lab as prerequisites.

RSC 1101 Radiographic Image Production 3 Credits

This course introduces and explores factors related to the use of ionizing radiation in the production of the radiographic image. Topics covered during the semester include basic equipment components, exposure factors, optimal imaging standards, radiation safety, scatter control, and image receptors to include CR/DR image formation. Students will utilize energized imaging equipment to demonstrate image production and assess image quality using phantom body parts. Testing for this course includes written testing. This course requires program admission as a prerequisite.

CRS 1101 Clinical Radiation Science I 4 Credits

This course is a clinical education course designed to develop and support material taught in RAD 1101, MED 1101, PRO 1101, and RSC 1101. This course contains a multiple day "Clinical



St. Mary's Hospital School of Medical Imaging

Orientation" in which students are taught basic skills to allow entry into the clinical environment. This orientation includes, but is not limited to: Radiation Safety, Hospital Codes, Standard Precautions, Patient Communication/ History Taking, Infection Control, and Patient Transfers/ Body Mechanics. Students then progress on to actual clinical training in which they begin to develop technical skills, interpersonal skills, critical thinking skills, and communication skills required to be an entry level technologist. Students participate in performing radiographic examinations in hospitals, imaging centers, urgent care centers, and freestanding emergency centers under the supervision of Registered Technologists and Clinical Preceptors. Testing for this course includes verbal and practical testing. This course requires program admission as a prerequisite.

Second Semester

PRO 1102 Radiographic Procedures II & Lab

4 Credits

This course is a coordinated classroom and lab in which students will learn radiographic positioning including pelvic girdle, spine, and thorax examinations. Anatomy pertinent to each radiographic examination is also studied. Students continue to learn how to produce quality radiographs and continued laboratory experience will demonstrate the application of theoretical principles and concepts. Students continue to develop critical thinking skills and adaptive techniques for use on difficult or non-standard patients. Methods of imaging using standard radiographic/ fluoroscopic rooms are covered. Radiation safety methods are taught with each unit of study. During lab, students simulate performing radiographic procedures on fellow classmates. Students will utilize energized imaging equipment to demonstrate proper positioning and positioning errors using phantom body parts. Testing for this course includes practical and written testing. This course requires PRO 1101 or comparable courses as a prerequisite.

RSC 1102 Radiographic Imaging Equipment & Radiologic Physics

3 Credits

This course continues to expand the knowledge base of principles involved in image production and analysis of quality. The course will address the nature and characteristics of radiation, x-ray production, and the fundamentals of photon interactions with matter. In addition, this course provides progression into advanced imaging methods and modalities. Testing for this course includes written testing. This course requires RSC 1101 or comparable courses as a prerequisite.

RAD 1102 Radiobiology & Radiation Protection

3 credits

This course provides students with information related to the response of the human body to ionizing radiation. Factors affecting biological response are presented, including acute and chronic effects of radiation. Students also learn principles and regulations related to radiation protection responsibilities for patients, personnel, and the public. Students will utilize energized



St. Mary's Hospital School of Medical Imaging

imaging equipment to demonstrate different radiation protection practices using phantom body parts. Testing for this course includes written testing. This course requires RSC 1101 or comparable courses as a prerequisite.

CRS 1102 Clinical Radiation Science II

4 Credits

This course is a clinical education course designed to continue development of technical skills, interpersonal skills, critical thinking skills, and communication skills required to be an entry-level technologist. Students participate in performing radiographic examinations in hospitals, imaging centers, urgent care centers, and freestanding emergency centers under the supervision of Registered Technologists and Clinical Preceptors. Testing for this course includes verbal and practical testing. This course requires CRS 1101 or comparable courses as a prerequisite.

Third Semester

PRO 2103 Radiographic Procedures III & Lab

4 Credits

This course is a coordinated classroom and lab in which students will learn advanced radiographic positioning including pediatric studies, Operating Room (OR) procedures, use of the non-energized C-arm unit, and contrast studies. Anatomy pertinent to each radiographic examination is also studied. Students continue to learn how to produce quality radiographs and continued laboratory experience will demonstrate the application of theoretical principles and concepts. Students continue to develop critical thinking skills and adaptive techniques for use on difficult or non-standard patients. Methods of imaging using standard radiographic/fluoroscopic rooms are covered. Radiation safety methods are taught with each unit of study. During lab, students simulate performing radiographic procedures on fellow classmates. Students will utilize energized imaging equipment to demonstrate proper positioning and positioning errors using phantom body parts. Testing for this course includes practical and written testing. This course requires PRO 1101, PRO 1102, or comparable courses as prerequisites.

CRS 2103 Clinical Radiation Science III

3 Credits

This clinical education course is designed to continue the development of technical skills, interpersonal skills, critical thinking skills, and communication skills required to be an entry-level technologist. Students participate in performing radiographic examinations in hospitals, imaging centers, urgent care centers, freestanding emergency centers, and orthopedic centers under the supervision of Registered Technologists and Clinical Preceptors. Testing for this course includes verbal and practical testing. This course requires CRS 1101, CRS 1102, or comparable courses as prerequisites.



St. Mary's Hospital School of Medical Imaging

Fourth Semester

PRO 2104 Radiographic Procedures IV and Lab

4 Credits

This course is a coordinated classroom and lab in which students will continue to learn advanced radiographic positioning including head work. Anatomy pertinent to each radiographic examination is also studied. Students continue to learn how to produce quality radiographs and continued laboratory experience will demonstrate the application of theoretical principles and concepts. Students continue to develop critical thinking skills and adaptive techniques for use on difficult or non-standard patients. Methods of imaging using standard radiographic /fluoroscopic rooms are covered. Radiation safety methods are taught with each unit of study. During lab, students simulate performing radiographic procedures on fellow classmates. Students will utilize energized imaging equipment to demonstrate proper positioning and positioning errors using phantom body parts. Testing for this course includes practical and written testing. This course requires PRO 1101, PRO 1102, and PRO 2103, or comparable courses as prerequisites.

CRS 2104 Clinical Radiation Science IV

6 Credits

This course is a clinical education course designed to continue development of technical skills, interpersonal skills, critical thinking skills, and communication skills required to be an entry-level technologist. Students participate in performing radiographic examinations in hospitals, imaging centers, urgent care centers, freestanding emergency centers, and orthopedic centers under the supervision of Registered Technologists and Clinical Preceptors. Testing for this course includes verbal and practical testing. This course requires CRS 1101, CRS 1102, and CRS 2103, or comparable courses as prerequisites.

RAD 2104 Radiographic Pathology

3 Credits

This course is designed to integrate disease processes with the radiographic appearance of specific diseases and the impact on exposure factor selection. Study will be body system based. Specific pathologies will be correlated with imaging study options and imaging examples will be assessed. Testing for this course includes written testing and pathology identification on images. This course requires PRO 1101, PRO 1102, or comparable courses as prerequisites.

RSC 2104 Advanced Imaging Modalities

3 Credits

This course is designed to provide a brief overview of other imaging modalities and patient treatments to include Bone Densitometry, Cardiac-Interventional, Computed Tomography, Magnetic Resonance, Medical Dosimetry, Nuclear Medicine, Radiation Therapy, Ultrasound/Sonography, and Vascular-Interventional. Contrast and comparisons will be identified in types of equipment used, dose differences, types of radiation, terminology, patient preparation, and education and certification requirements. Testing for this course includes



St. Mary's Hospital School of Medical Imaging

written testing. This course requires RAD 1101, MED 1101, PRO 1101, RSC 1101, PRO 1102, RSC 1102, RAD 1102, and PRO 2103, or comparable courses as prerequisites.

Fifth Semester

RAD 2105 Correlated Topics in Radiologic Technology

3 Credits

This comprehensive review course is designed to strengthen and support knowledge attained in all previous curriculum course work. Review materials and activities aid students in preparation for the four (4) content areas of the ARRT examination. Testing for this course includes written testing. As a prerequisite for this course, all didactic curriculum courses of the first through fourth semesters, or comparable courses, must have been successfully completed.

RSC 2105 Image Analysis

2 Credits

This course provides a basis for analyzing radiographic images. Included are the importance of optimal imaging standards, discussion of a problem-solving technique for image evaluation and the factors that can affect image quality. Actual images will be included for analysis. Testing for this course includes verbal and written testing. This course requires RSC 1101 and RSC 1102, or comparable courses, as prerequisites.

CRS 2105 Clinical Radiation Science V

6 Credits

This course is a clinical education course designed to continue development of technical skills, interpersonal skills, critical thinking skills, and communication skills required to be an entry-level technologist. Students participate in performing radiographic examinations in hospitals, imaging centers, urgent care centers, freestanding emergency centers, and orthopedic centers under the supervision of Registered Technologists and Clinical Preceptors. Students will also rotate through the following advanced modalities; MRI, CT, Special Procedures/Angiography or Cardiac Cath Lab, Ultrasound, Nuclear Medicine, and Radiation Therapy. Students will participate in evening rotations of four weeks (1:00pm - 9:30pm). Eligible students can be assigned to specialty area for a maximum of 4 weeks. Testing for this course includes verbal and practical testing. This course requires CRS 1101, CRS 1102, CRS 2103, and CRS 2104, or comparable courses as prerequisites.