

**Bon Secours St. Mary's Hospital School of Medical Imaging**  
**Course Descriptions by Semester**  
**18 Month Program**

**FIRST SEMESTER**

**Credits**

**RAD 1101 Patient Care, Ethics, Law and Diversity**

**3 credits**

This 16 week 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 medical law, ethical and 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**

**3 credits**

This 16 week course students will learn basic radiographic positioning of the chest, abdomen, and extremities. Anatomy pertinent to each radiographic examination is also studied. Methods of imaging using standard diagnostic rooms and portable machinery are also covered. Radiation Safety practice is taught with each unit of study. Critical thinking exercises are utilized to learn adaptive techniques for use on difficult or non-standard patients. This course requires human anatomy and program admission as prerequisites.

**PRO 1101L Radiographic Procedures I Lab**

**1 credit**

This 16 week course is a coordinated lab component of PRO 1101 where students receive instruction on how to perform the radiographic positions learned in PRO 1101. During lab, students simulate performing radiographic procedures on fellow students. Students also utilize critical thinking exercises to explore adaptive techniques for use on difficult or non-standard patients. The testing method utilizes practical demonstration of radiographic positioning. This course requires human anatomy and program admission as prerequisites.

**RSC 1101 Imaging I**

**3 credits**

This 16 week 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 explore practical application in a lab setting. Written testing will be used in the classroom setting. Enrollment in this course requires completion of the math prerequisite and the candidate must have satisfied all program admission requirements.

**CRS 1101 Clinical Radiation Science I****4 credits**

This 16 week course is a clinical education course designed to develop and support material taught in PRO 1101, PRO 1101L, RAD 1101, and RSC 1101. This course contains a multiple day “Clinical 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, Body Mechanics, Standard Precautions, Film/IR Handling, History Taking, Legal and Ethical Issues. 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 16 hours per week in a Hospital/ Doctor’s Office or Outpatient Imaging Center under the supervision of Registered Technologists and Clinical Instructors. Testing methods for this course include: verbal and practical. This course requires program admission as a prerequisite

**CRS 1101L Clinical Seminar I Lab****1 credit**

This 16 week course is a lab component of clinical education course CRS1101 and is designed to foster and support material taught in the didactic course PRO 1101 and practiced in the clinical setting. This course facilitates oral and written communication between students and faculty regarding clinical experiences and the documentation of those experiences. Students also have the opportunity for experiential learning with content chosen from the general curriculum appropriate to the semester. This course requires program admission as a prerequisite.

**SECOND SEMESTER****PRO 1102 Radiographic Procedures II****3 credits**

This 16 week course students will learn advanced radiographic positioning including pelvic girdle, spine, thorax, and barium contrast examinations. Students continue to develop critical thinking skills and adaptive techniques for use on difficult or non-standard patients. Anatomy pertinent to each radiographic examination is also studied. Methods of imaging using standard radiographic/ fluoroscopic rooms are covered. Radiation safety methods are taught with each unit of study. This course requires PRO 1101 and PRO 1101L or comparable courses as prerequisites.

**PRO 1102L Radiographic Procedures Lab II****1 credit**

This 16 week course is a coordinated lab component of PRO 1102 where students receive instruction on how to perform the radiographic positions learned in PRO 1102. During lab, students simulate performing radiographic procedures on fellow students. Students also utilize critical thinking exercises to explore adaptive techniques for use on difficult or non-standard patients. The testing method utilizes practical demonstration of radiographic positioning. This course requires PRO 1101 and PRO 1101L or comparable courses as prerequisites.

**RSC 1102 Imaging II****3 credits**

This 16 week course continues to expand the knowledge base of principles involved in image production and analysis of quality. Hard copies as well as digital images are used in problem solving evaluation. Archiving and retrieval of the digital radiographic image, film processing, and sensitometry are discussed. Content provides a basic knowledge of quality control. Written testing will be the assessment tool for this course. RSC1101 or a comparable course is required as a prerequisite for this course.

**RAD 1102 Radiobiology****3 credits**

This 16 week 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. This course requires RSC 1101 or a comparable course as a prerequisite. Written testing is the assessment method for this course.

**CRS 1102 Clinical Radiation Science II****4 credits**

This 16 week 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 16 hours per week in a Hospital/ Doctor's Office or Outpatient Imaging Center under the supervision of Registered Technologists and Clinical Instructors. Testing methods for this course include: verbal and practical. This course requires CRS 1101 or comparable course as a prerequisite.

**CRS 1102L Clinical Seminar II Lab****1 credit**

This 16 week course is a lab component of clinical education course CRS1102 and is designed to foster and support material taught in the didactic course PRO 1102 and practiced in the clinical setting. This course facilitates oral and written communication between students and faculty regarding clinical experiences and the documentation of those experiences. Students also have the opportunity for experiential learning with content chosen from the general curriculum appropriate to the semester. This course requires CRS 1101 and CRS 1101L, or comparable courses as prerequisites.

**THIRD SEMESTER****PRO 2103 Advanced Radiographic Procedures I****3 credits**

This 16 week course students will learn advanced radiographic procedures and information related to specialty areas such as Magnetic Resonance Imaging, Computed Tomography, Ultrasound, Radiation Therapy, Nuclear Medicine, Angiography, Cardiac Cath, Mammography, Bone Densitometry and Radiologist Assistant. The cranium is included in the course of study. Students continue to develop critical thinking skills and adaptive techniques. Anatomy pertinent to each examination is also studied. Safe practice guidelines are taught with each unit of study. This course requires PRO 1101, PRO 1101L, PRO 1102, PRO 1102L and PRO 2103 or comparable courses as prerequisites.

**RSC 2103 Imaging Equipment****4 credits**

This 16 week 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. Comparison is made between general x-ray imaging equipment and specialized modality equipment. This course requires RSC 1101 and RSC 1102, or comparable courses as prerequisites. Written testing will be the assessment method for this course.

**RAD 2103 Radiographic Pathology I****2 credits**

This 16 week 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. An opportunity will be provided for radiologist mentoring of the student during this course. Testing methods for this course include written testing and pathology identification on images. This course requires successful completion of PRO 1101 and PRO 1102 or comparable courses as prerequisites.

**CRS 2103 Clinical Radiation Science III****6 credits**

This 16 week 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 **24** hours per week in a Hospital/ Doctor's Office or Outpatient Imaging Center under the supervision of Registered Technologists and Clinical Instructors. Testing methods for this course include: verbal and practical. This course requires CRS 1101 & CRS 1102 or comparable courses as prerequisites.

**CRS 2103L Clinical Seminar III Lab****1 credit**

This 16 week course is a lab component of clinical education course CRS 2103 and is designed to foster and support material taught in the didactic course PRO 2103 and practiced in the clinical setting. This course facilitates oral and written communication between students and faculty regarding clinical experiences and the documentation of those experiences. Students also have the opportunity for experiential learning with content chosen from the general curriculum appropriate to the semester. This course requires CRS 1101, CRS 1101L, CRS 1102 and CRS 1102L or comparable courses as prerequisites.

## **FOURTH SEMESTER**

### **PRO 2104 Advanced Radiographic Procedures II**

**2 credits**

This 16 week course students will learn advanced related procedures for headwork and specialty positions/projections in orthopaedics. Students continue to develop critical thinking skills and adaptive techniques. Anatomy pertinent to each examination is also studied. Radiation safety practice is taught with each unit of study. This course requires PRO 1101, PRO 1101L, PRO 1102, PRO 1102L and PRO 2103 or comparable courses as prerequisites.

### **PRO 2104L Advanced Radiographic Procedures Lab II**

**1 credit**

This 16 week course has students participating in the coordinated lab component of PRO 2104. During lab, students practice radiographic positions learned in PRO 2104 and simulate performing radiographic procedures on fellow students. Students also utilize critical thinking exercises to explore adaptive techniques for use on difficult or non-standard patients. Testing methods for this course include: practical testing. This course requires PRO 1101, PRO 1101L, PRO 1102, PRO 1102L and PRO 2103 or comparable courses as prerequisites.

### **RAD 2104 Radiographic Pathology II**

**3 credits**

This 16 week course is the companion to RAD 2103. It 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. An opportunity will be provided for radiologist mentoring of the student during this course. Testing methods for this course include written testing and pathology identification on images. This course requires successful completion of RAD 2103 as a prerequisite.

### **CSA 2104 Cross-sectional Anatomy**

**2 credits**

This 16 week course is a course that teaches basic Cross-sectional Anatomy as visualized in MRI and CT. Testing method for this course includes: written testing. This course requires Human Anatomy and Physiology, Medical Terminology and PRO 1101, PRO 1102 and PRO 2103 as prerequisites.

### **CRS 2104 Clinical Radiation Science IV**

**6 credits**

This 16 week 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 24 hours per week in a Hospital/Doctor's Office or Outpatient Imaging Center under the supervision of Registered Technologists and Clinical Instructors. Students will also rotate through the following advanced modalities; MRI, CT, Special Procedures/Angiography or Cardiac Cath Lab, Ultrasound, Nuclear Medicine, and Radiation Therapy. Evening rotations of three weeks (1:00pm - 9:30pm) will be introduced. Testing methods for this course include: verbal and practical. This course requires CRS 1101, CRS 1102, and CRS 2103 or comparable courses as prerequisites.

**CRS 2104L Clinical Seminar IV Lab****1 credit**

This 16 week course is a lab component of clinical education course CRS 2104 and is designed to foster and support material taught in the didactic courses PRO 1101, 1102, 2103 and practiced in the clinical setting. This course facilitates oral and written communication between students and faculty regarding clinical experiences and the documentation of those experiences. Students also have the opportunity for experiential learning with content chosen from the general curriculum appropriate to the semester. This course requires CRS 1101, CRS 1101L, CRS 1102, CRS 1102L, CRS 2103 and CRS 2103L or comparable courses, as prerequisites.

**FIFTH SEMESTER****RAD 2105 Registry Review****5 credits**

This 8 week 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. As a pre-requisite for this course, all didactic curriculum courses of the first through fourth semesters must have been successfully completed. Written testing is the assessment method for this course; this course is Pass/Fail.

**CRS 2105 Clinical Radiation Science V****3 credits**

This 8 week clinical education course is 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 24 hours per week in a Hospital/ Doctor's Office or Outpatient Imaging Center under the supervision of Registered Technologists and Clinical Instructors. Evening rotations of three weeks (1:00pm - 9:30pm) will continue. Eligible students can be assigned to specialty area for a maximum of 4 weeks. Testing methods for this course include: verbal and practical. This course requires CRS 1101, CRS 1102, CRS 2103 & CRS 2104 or comparable courses as prerequisites.

**CRS 2105L Clinical Seminar V Lab****1 credit**

This 8 week course is a lab component of clinical education course CRS 2105 and is designed to foster and support material taught in the didactic courses PRO 1101, 1102, 2103, 2104 and CSA 2104, and practiced in the clinical setting. This course facilitates oral and written communication between students and faculty regarding clinical experiences and the documentation of those experiences. Students also have the opportunity for experiential learning with content chosen from the general curriculum appropriate to the semester. This course requires CRS 1101, CRS 1101L, CRS 1102, CRS 1102L, CRS 2103, CRS 2103L, CRS 2104 and CRS 2104L or comparable courses, as prerequisites.