

BISMARCK MEDICAL CENTER RADIOGRAPHY PROGRAM COURSE DESCRIPTIONS (IN ALPHABETICAL ORDER)

Advanced Procedures

Instructor – Alanda Small

45 hours

During this class, students will study various techniques to aid in radiographing children. Age appropriate methods for radiography, communication, proper technique, radiation protection methods. This course also offers a review of basic positioning of specific areas of the body. A study of non-routine procedures relating to specialized examinations for each body part will also be included. The student will gain a better understanding of special exams such as biliary duct procedures, hysterosalpingography, orthoroentgenography, arthrography and myelography. Instruction will include reasons for doing exams, how they are performed, and the projections used for many exams. Angiography, interventional, and noninterventional procedures will be discussed.

Prerequisite: Radiographic Procedures

Anatomy & Physiology I

Instructor - Cindy Hanson

15 hours

This course is the study of the body structure including size, shape, composition and also how the body functions. It is taught during the Junior year. We will cover the organ systems from simplest to most complex that make up an individual person. We will also cover the function of each system. During this course, the student will learn the proper terminology to describe the location of body parts with respect to one another. This course includes the study of body cavities, membranes, and organs within each cavity.

Prerequisite: College A & P

Anatomy & Physiology II

Instructor - Cindy Hanson

30 hours

This course continues on in the study of the body structure including size, shape, composition and also how the body functions. It is taught during the Senior year. We will cover the organ systems from simplest to most complex that make up an individual person. We will also cover the function of each system. During this course the student will learn the proper terminology to describe the location of body parts with respect to one another. This course includes the study of body cavities, membranes, and organs within each cavity.

Prerequisite: A & P I

Digital Imaging

Instructor – Alanda Small

30 hours

This course will assist the junior student's understanding of how digital imaging works and how they can improve the patient's care with better imaging techniques. This course will give the student a basic understanding of how CR and DR images are created and captured, pre- and post-processing techniques, storage of images, the display systems and electronic images, and the difference between CR and DR in the clinical use.

Prerequisite: None

Radiographic Physics Instructor – Cindy Hanson 30 hours

This course provides the student with an understanding of the principles involved in x-ray production, and learning of the parts of the x-ray equipment. It includes the study of atoms, learning about the difference between electromagnetic and particulate radiation, the study of the x-ray tube and how x-rays are produced, and x-ray interactions with matter. Also included in this course are methods to control scatter, learning about automatic exposure control, and the study of the parts and function of the image intensifier. Students will also learn how equipment is designed for radiation protection, and the testing standards required to be performed on equipment.

Prerequisite: Principles of Exposure

Radiographic Procedures I Instructor - Alanda Small 45 hours

This course includes a step-by-step process into teaching the student to take radiographs on actual patients. This course goes hand in hand with Clinical Education I by learning in the classroom, Lab, and performing examinations on actual patients. Students start by learning in the classroom about specific body anatomy, then studying the positions and projections necessary to take each specific radiograph. Students will learn various anatomical parts and routine projections by studying the skeleton, bones, drawings, and radiographs in addition to hands on learning in the clinical setting.

Prerequisite: None

Radiographic Procedures – LAB I Instructor – Heidi Knoll 50 hours

The student will learn anatomy and positioning during the Radiographic Procedures course, for each exam. Then, the Clinical Instructor will demonstrate proper positioning on an individual, using role-play. The students will be given LAB time to practice. The Clinical Instructor will test students as they demonstrate the procedure. The student is not allowed to perform an exam on actual patients until they have passed both the written and the LAB test. This course correlates with Clinical Education I by learning in the classroom, and performing examinations on actual patients.

Prerequisite: None

Radiographic Procedures II Instructor - Alanda Small 45 hours

This course is a continuation of Radiographic Procedures I. This course goes hand in hand with Clinical Education I and II by learning in the classroom, Lab, and performing examinations on actual patients. Students start by learning in the classroom about specific body anatomy, then studying the positions and projections necessary to take each specific radiograph. Students will learn various anatomical parts and routine projections by studying the skeleton, bones, drawings, and radiographs in addition to hands on learning in the clinical setting.

Prerequisite: Radiographic Procedures I

Radiographic Procedures - LAB II Instructor – Heidi Knoll 45 hours

The student will learn anatomy and positioning during the Radiographic Procedures course, for each exam. Then, the Clinical Instructor will demonstrate proper positioning on an individual, using role play. The students will be given LAB time to practice. The Clinical Instructor will test students as they demonstrate the procedure. The student is *not allowed* to perform an exam on actual patients until they have passed both the written and the LAB test. This course correlates with Clinical Education II by learning in the classroom, and performing examinations on actual patients.

Prerequisite: Radiographic Procedures - LAB I

Registry Review Instructors – Cindy H./Alanda S./Heidi K. 45 hours

This course is a review of information that students have learned. The student will complete a variety of review study programs online in preparation for taking the ARRT national certification examination. As directed by faculty, students will purchase and complete online review programs. Most of this course is self-study, in preparing students to take Boards. This course begins in January of the senior year, prior to graduation.

Prerequisite: Junior level didactic courses

Trauma and Mobile Radiography I Instructor – Heidi Knoll 15 hours

This course will prepare the student in handling trauma patients and how to radiograph them as quickly and as easily as possible. The student will learn how to radiograph patients within the surgical setting. Students will learn about the various types of fractures that can occur. In addition, much of this course involves introductory information to trauma and mobile radiography. Expanded information on this topic is included in Trauma and Mobile Radiography II.

Prerequisites: None

Trauma and Mobile Radiography II Instructor – Heidi Knoll 15 hours

This course will continue to prepare the student in handling trauma patients and teach them how to radiograph these patients as quickly and as easily as possible. The goal is to produce quality images with the least amount of discomfort to the patient. Some of the topics covered include technique adjustments, simplified centering, and rules of shift. This course also teaches the student how to use props (sponges, sandbags, etc.), tube tilt and IR placement to obtain projections without moving the trauma patient.

Prerequisites: Trauma and Mobile Radiography I