

## **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



**Mobile and Surgical Radiography      Instructor – Heidi Knoll      15 hours**

This course is a continuation of Medical Terminology I. The intent of this course is to introduce the student to commonly used medical words so that they may become more familiar with these medical words as they read them in patient charts, on patient exam requests, or hear them used in the health care setting.

Prerequisite: None

**Pathology      Instructor - Cindy Hanson      45 hours**

This course involves the study of abnormal changes in the function or structure within the body. We will cover the signs and/or symptoms of diseases, their causes, and the radiographic appearance of certain diseases. Students will learn the role of the radiographer in imaging the changes in normal anatomy and tissue brought on by disease. The course involves studying many different diseases with which a radiographer must become familiar.

Prerequisite: Imaging Analysis I

**Patient Care I      Instructor - Cindy Hanson      30 hours**

This course is to introduce the junior radiography student to certain procedures, methods, techniques and equipment used for the general care of patients. The student will learn the importance of history taking and how to interact professionally and appropriately with all age groups. This course will cover basic transfer and immobilization techniques.

Prerequisite: None

**Patient Care II      Instructor - Cindy Hanson      30 hours**

Students will also learn about many of the common drugs, along with the different types of contrast media, and their functions. The course covers what to do in a medical emergency and what drugs are commonly found in a crash cart. Included in the course is the study of aseptic and nonaseptic techniques. The student will also learn about ethical and legal issues of Radiology, and medical law in the health care profession.

Prerequisite: Patient Care I

**Principles of Exposure      Instructor – Heidi Knoll      30 hours**

Principles of Exposure introduces the subject of radiographic image quality, describing principles that contribute to the sharpness and visibility of the recorded image. Each factor is examined separately, with emphasis on calculating its effects through the use of the appropriate formulas and their practical applications. Upon completion of the course, the student will be able to employ technical factors, use accessory items such as grids, screens, etc., and have the knowledge to obtain optimum radiographic results.

Prerequisites: None

**Radiation Protection & Biology      Instructor - Cindy Hanson      45 hours**

This course includes methods of radiation protection including the different types of devices available. Students will study the biological effects of radiation, including short-term and long-term effects. Students will learn how to minimize exposure to the patient, themselves, and others. The course includes studying the rationale for shielding, the purpose of beam restriction, and the effects of filtration, both inherent and compensating.



**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 Radiography                    Instructor – Heidi Knoll                    15 hours**

This course will prepare the senior student to care for trauma patients and teach them how to radiograph these patients as quickly and as efficiently as possible. In this course, students will learn to modify patient positioning due to injury. The course also includes information about the various types of fractures that may occur, and how to properly image patients with those injuries.

Prerequisites: Radiographic Procedures I and II