

# XRAY - RADIOGRAPHY (XRAY)

## **XRAY 1000 - Introduction to Radiography (3 Credits)**

This course is designed to give prospective Radiography students an introduction to allied health professions in general and to diagnostic imaging in particular. Topics include admission and graduation requirements for health programs. Medical terminology and an overview of anatomy is taught, along with basic imaging concepts. Radiation safety and patient care issues are addressed. Note: This course is a requirement for Radiography students but is open to all students.  
Lecture: 3 hours

**Prerequisite(s):** ENGL 1010 (may be taken concurrently)

## **XRAY 1010 - Clinical Radiography (3 Credits)**

This course familiarizes students with the field of radiological technology. Topics include basic anatomy, radiation protection and safety, as well as medical ethics and law as related to radiographic practice. The anatomy, positioning and film critique for selected procedures are included and coordinated with laboratory practice and clinical application. Students are assigned to a four-week clinical rotation upon successful completion of the classroom and lab portion of this course.  
Other: 43 hours

**Prerequisite(s):** XRAY 1000

## **XRAY 1110 - Principles of Radiography I (3 Credits)**

This course introduces students to the principles of radiographic exposure, image production and the prime factors in radiography.  
Lecture: 3 hours

**Prerequisite(s):** XRAY 1000

## **XRAY 1130 - Radiographic Anatomy and Physiology (3 Credits)**

This course is a study of basic anatomy and physiology and provides students with the opportunity to develop an understanding of the normal functions of organs and body systems as a basis for radiological examination.  
Lecture: 3 hours

**Prerequisite(s):** XRAY 1010 and XRAY 1110

## **XRAY 1220 - Principles of Radiography II (3 Credits)**

This course is a continuation of XRAY 1110 and is designed to give the student a thorough knowledge of the manipulation of exposure factors and to construct technique charts.  
Lecture: 3 hours

**Prerequisite(s):** XRAY 1110

## **XRAY 1230 - Patient Care for Radiographers (1 Credit)**

This course is designed to develop skills needed to address the needs of patients in the radiology department. Medical asepsis, patient assessment, communication skills, patients' rights and standard of care are addressed, in addition to routine and emergency care.  
Lecture: 1 hour

**Prerequisite(s):** XRAY 1010

## **XRAY 1910 - Radiography I (6 Credits)**

This course is a study of basic positioning for extremities, chest, abdomen and the bony thorax. Proper patient communication, radiation protection and identification of structures on radiographs are incorporated into each unit of study. This course is coordinated with practical application in the radiography laboratory and at the affiliated hospital.  
Lecture: 3 hours, Lab: 2 hours

**Prerequisite(s):** XRAY 1010 and XRAY 1110

## **XRAY 1920 - Radiography II (6 Credits)**

This course is a study of the vertebral column, skull and facial bones. This course also studies the alimentary canal, biliary tract and the urinary system in relationship to the contrast agents and positioning utilized for each examination. This course is coordinated with practical application in the radiography laboratory and at the affiliated hospital.  
Other: 21 hours

**Prerequisite(s):** XRAY 1910

## **XRAY 1930 - Radiography III (6 Credits)**

This course is designed to expand the students' working knowledge of technique formulation and conversion factors; to understand the use and limitations of the X-ray tube; to develop an understanding of the function and use of various types of imaging equipment and accessories; and to examine methods for producing radiographic images in fluoroscopy, the operating room and at the patient's bedside. This is related to the students' ongoing clinical experience and their use of computer-assisted imaging modalities in a hospital setting.  
Other: 39 hours

**Prerequisite(s):** XRAY 1920

**XRAY 2340 - Quality Assurance in Radiography  
(1 Credit)**

This course is designed to examine the effective functioning of a radiology department. Methods for evaluating quality, equipment testing and documentation will be discussed, as well as the role of the registered radiographer in maintaining quality.

Lecture: 1 hour

**Prerequisite(s):** PHYS 1110 and XRAY 1930

**XRAY 2410 - Introduction to Radiation Biology  
(3 Credits)**

This course presents basic radiobiology in relationship to the possible genetic and somatic effects of radiation dependent upon dose and the rate to specific types of human cells, organs, and systems. Every known method used to limit ionizing radiation from diagnostic examinations is presented.

Lecture: 3 hours

**Prerequisite(s):** PHYS 1110 and XRAY 1130

**XRAY 2430 - Sectional Imaging  
(3 Credits)**

This course is a study of human anatomy from a sectional perspective. The anatomy of the head, neck, thorax, abdomen, pelvis and vertebral column are studied. This anatomy is related to the use of computer-assisted imaging modalities. Common pathological findings in each area are discussed.

Lecture: 1 hour

**Prerequisite(s):** XRAY 1130

**XRAY 2460 - Principles of Imaging Diverse Patient Populations  
(3 Credits)**

This course allows students to apply their knowledge of radiographic imaging and patient care to a variety of non-traditional patient populations such as pediatric, geriatric, and trauma patients.

Lecture: 3 hours

**Prerequisite(s):** PHYS 1110 and XRAY 1930 and XRAY 1920 and XRAY 1220

**XRAY 2470 - Radiographic Pathology  
(1 Credit)**

This course examines the most common congenital and acquired diseases that are demonstrated radiographically. Etiology, symptoms, treatment and prognosis are discussed. Students evaluate the quality of radiographs of patients with these conditions.

Lecture: 4 hours

**Prerequisite(s):** XRAY 1130 and XRAY 2340 and XRAY 2910 and XRAY 1930

**XRAY 2910 - Radiography IV  
(7 Credits)**

This course deals with the specialized and highly technical procedures in radiography, the equipment and contrast media employed and the general indications for each examination. This course is coordinated with practical application in the radiographic laboratory and the clinical affiliate, where practical skills associated with these procedures are developed.

Lecture: 3 hours, Lab: 2 hours, Other: 24 hours

**Prerequisite(s):** XRAY 1930

**XRAY 2920 - Radiography V  
(4 Credits)**

This course requires students to prepare a research project that forms the basis for a written paper and an oral presentation. Students are also required to read and evaluate material on selected topics in health care and new imaging modalities. Mastery of previously learned material is evaluated by comprehensive examinations. Mastery of clinical skills built on previously learned material is also evaluated. Observations in associated imaging modalities is required.

Other: 25 hours

**Prerequisite(s):** XRAY 2910 and XRAY 2340 and XRAY 2460