

# DIAGNOSTIC MEDICAL IMAGING RADIOGRAPHY (DMIR)

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## DMIR 1100

### *Introduction to DMIR*

2 Credit Hours

An introduction and overview of the field of radiography and radiation safety. This course requires a service learning component. (2 lecture hours)

## DMIR 1111

### *Clinical Education I*

1 Credit Hour

Applied radiography at assigned clinical education setting. Satisfies the clinical objectives and competency requirements listed in the Radiography program design for the first semester. (8 clinical hours)

**Prerequisite:** Admission to Diagnostic Medical Imaging Radiography program is required.

## DMIR 1112

### *Clinical Education II*

2 Credit Hours

Applied radiography at assigned clinical education centers. Satisfies the clinical objectives and competency requirements as specified in the Radiologic program design for the second semester. (16 clinical hours)

**Prerequisite:** DMIR 1111 and DMIR 1131, both with grade of C or better, or equivalent or consent of instructor.

## DMIR 1113

### *Clinical Education III*

2 Credit Hours

Applied radiography at assigned clinical education centers. Satisfies the clinical objectives and competency requirements as specified in the Radiography program design. (16 clinical hours)

**Prerequisite:** Admission to the Diagnostic Medical Imaging Radiography program is required. DMIR 1112, DMIR 1121, and DMIR 1132; all with a grade of C or better, or equivalent or consent of instructor.

## DMIR 1121

### *Radiographic Equipment*

4 Credit Hours

Elementary physical principles including systems of measurement, classical mechanics, structure of matter, electricity and magnetism, X-ray production, X-ray circuits, and radiographic and fluoroscopic systems. (4 lecture hours)

**Prerequisite:** DMIR 1111 and DMIR 1131, both with a grade of C or better, or equivalent or consent of instructor.

## DMIR 1122

### *Image Formation and Evaluation*

5 Credit Hours

Students will be introduced to advanced principles and applications of radiographic equipment. Topics will include radiographic image production, image quality, image processing, image receptors, digital image display and storage, and production and control of scattered radiation. This courses may be repeated one time with approval of DMIR faculty. (4 lecture hours, 2 lab hours)

**Prerequisite:** Admission to the Diagnostic Medical Imaging Radiography program is required. DMIR 1112, DMIR 1121, and DMIR 1132, all with a grade of C or better, or equivalent or consent of instructor.

## DMIR 1131

### *Radiographic Procedures I*

4 Credit Hours

Radiographic patient care, terminology, routine radiographic positioning and radiographic image evaluation of the thorax, abdomen and urinary tract. (3 lecture hours, 2 lab hours)

**Prerequisite:** Admission to Diagnostic Medical Imaging Radiography Program or consent of instructor.

## DMIR 1132

### *Radiographic Procedures II*

3 Credit Hours

Routine radiographic positioning and radiographic image evaluation of the upper and lower extremities, bony thorax, and digestive system. (2 lecture hours, 2 lab hours)

**Prerequisite:** DMIR 1111 and DMIR 1131, both with a grade of C or better, or equivalent or consent of instructor.

## DMIR 1133

### *Radiographic Procedures III*

3 Credit Hours

Routine and special projections/methods of radiographic positioning and radiographic image evaluation of the head and neck, spine and pelvis. (2 lecture hours, 2 lab hours)

**Prerequisite:** Admission to the Diagnostic Medical Imaging Radiography program is required. DMIR 1112, DMIR 1121, and DMIR 1132; all with a grade of C or better, or equivalent or consent of instructor.

## DMIR 1145

### *Ethics, Law & Basic Pharmacology*

1 Credit Hour

Provides the fundamentals in medical ethics, law, and pharmacology in Radiography. (1 lecture hour)

**Prerequisite:** DMIR 1113, DMIR 1122, and DMIR 1133, all with a grade of C or better or equivalent or consent of instructor.

## DMIR 2201

### *Radiation Physics, Biology & Protection*

3 Credit Hours

Students will learn advanced radiological physics related to biological effects of ionizing radiation as well as principles in personal and patient radiation safety and protection. (3 lecture hours)

**Prerequisite:** DMIR 1145 and DMIR 2211, both with a grade of C or better or consent of instructor.

## DMIR 2211

### *Clinical Education IV*

1 Credit Hour

Students perform radiography skills at assigned clinical education centers satisfying the Radiography program's clinical objectives and competency requirements. (8 clinical hours)

**Prerequisite:** Admission to Diagnostic Medical Imaging Radiography program and DMIR 1113, DMIR 1122, and DMIR 1133, all with a grade of C or better, or equivalent, or consent of instructor.

## DMIR 2212

### *Clinical Education V*

3 Credit Hours

Students will apply acquired skills in radiography at assigned clinical education centers. Students must satisfy the clinical objectives and competency requirements as specified in the Radiography program design. (24 clinical hours)

**Prerequisite:** DMIR 1145 and DMIR 2211, both with a grade of C or better or consent of instructor.

**DMIR 2213**

***Clinical Education VI***

3 Credit Hours

Applied radiography at assigned clinical education centers. Satisfies the clinical objectives and competency requirements as specified in the Radiography program design. (24 clinical hours)

**Prerequisite:** Admission to the Diagnostic Medical Imaging Radiography program is required. DMIR 2201, DMIR 2212, and DMIR 2225, all with a grade of C or better or consent of instructor.

**DMIR 2220**

***Sectional Anatomy for Diagnostic Imaging***

2 Credit Hours

Study of human anatomy as demonstrated in sectional planes seen in Computed Tomography (CT), Positron Emission Tomography (PET) and Magnetic Resonance Imaging (MRI). Comparison of planar anatomy to sectional anatomy through the use of diagrams and radiologic images. Emphasis is on anatomy of the head, neck, spine, thorax, abdomen, pelvis, and musculoskeletal system. (2 lecture hours)

**Prerequisite:** American Registry of Radiologic Technologists Certification and/or Nuclear Medicine Certification or consent of instructor.

**DMIR 2225**

***Basic Pathophysiology***

3 Credit Hours

Students will learn basic concepts of pathology and the causes of disease in the body systems as illustrated by various diagnostic medical imaging disciplines. (3 lecture hours)

**Prerequisite:** DMIR 1145 and DMIR 2211, both with a grade of C or better or consent of instructor.

**DMIR 2235**

***Quality Management in Diagnostic Imaging***

2 Credit Hours

Students will explore advanced technical aspects of quality assurance and quality management as related to analog film processing, digital image processing as well as radiographic equipment. Focus will be on practical applications in the radiology department. (1 lecture hour, 2 lab hours)

**Prerequisite:** Admission to the Diagnostic Medical Imaging Radiography program is required. DMIR 2201, DMIR 2212, and DMIR 2225, all with a grade of C or better or equivalent, or consent of instructor.

**DMIR 2240**

***Radiographic Image Analysis***

3 Credit Hours

Students will learn a systematic approach for evaluating radiographic images to determine diagnostic quality. Topics will include a review and correlation of previous subjects. (3 lecture hours)

**Prerequisite:** Admission to the Diagnostic Medical Imaging Radiography program is required. DMIR 2201, DMIR 2212, and DMIR 2225, all with a grade of C or better or equivalent, or consent of instructor.

**DMIR 2400**

***Clinical Applications of Mammography***

2 Credit Hours

Experience in the performance of mammography exams, including patient preparation and education, interventional procedures and the required quality control tests described by the American College of Radiology (ACR) Mammography Quality Control Manual. Designed to meet or exceed the minimum competency requirements for certification by the American Registry of Radiologic Technologists (ARRT). (16 clinical hours)

**Prerequisite:** Admission to Diagnostic Medical Imaging Radiography program and ARRT certification or consent of instructor.

**DMIR 2402**

***Breast Anatomy, Physiology and Pathology***

1 Credit Hour

Establishment of baseline knowledge in breast anatomy and physiology. Correlation between breast anatomic structures and mammographic anatomic structures. Introduction to breast viability, benign and cancerous pathology, and mammographic appearance. (1 lecture hour)

**Prerequisite:** Admission to Diagnostic Medical Imaging Radiography program or consent of instructor.

**DMIR 2403**

***Mammography Principles and Procedures***

2 Credit Hours

Introduction to technologist-performed physical breast assessment. Preliminary patient assessment, physical breast assessment, and documentation of findings required for a comprehensive examination for imaging correlation of the breasts. A knowledge base of the various positions and projections in mammography along with the clinical data needed to perform the exam and positioning techniques for both screening and diagnostic mammography, including interventional procedures. (1 lecture hour, 2 lab hours)

**Prerequisite:** Admission to Diagnostic Medical Imaging Radiography program or consent of instructor.

**DMIR 2404**

***Mammography Quality Mgmt & Instrumentatn***

2 Credit Hours

Introduction to mammography equipment along with mandated requirements governing use and factors that influence the production and recording of mammographic images. Accreditation and service delivery standards included. (2 lecture hours)

**Prerequisite:** Admission to Diagnostic Medical Imaging Radiography program or consent of instructor.