DIAGNOSTIC MEDICAL IMAGING
RADIOGRAPHY

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. 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. Prerequisite: Diagnostic Medical Imaging Radiography 1111 and Diagnostic Medical Imaging Radiography 1131; all with a 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. Prerequisite: Diagnostic Medical Imaging Radiography 1112, Diagnostic Medical Imaging Radiography 1121 and Diagnostic Medical Imaging 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. Prerequisite: Diagnostic Medical Imaging Radiography 1111 and Diagnostic Medical Imaging Radiography 1131; all with a grade of C or better, or equivalent or consent of instructor. (4 lecture hours)

DMIR 1122
Image Formation and Evaluation
5 Credit Hours
Advanced principles and applications of radiographic equipment. Radiographic image production, image quality, film processing, analog image receptors, digital image receptors, and production and control of scattered radiation. Prerequisite: Admission to the Diagnostic Medical Imaging Radiography program is required. Diagnostic Medical Imaging Radiography 1112, Diagnostic Medical Imaging Radiography 1121 and Diagnostic Medical Imaging 1132; all with a grade of C or better, or equivalent or consent of instructor. (4 lecture hours)

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. Prerequisite: Admission to Diagnostic Medical Imaging Radiography Program or consent of instructor. (3 lecture hours, 2 lab hours)

DMIR 1132
Radiographic Procedures II
3 Credit Hours
Routine radiographic positioning and radiographic image evaluation of the upper and lower extremities, bony thorax, abdomen and digestive system. Prerequisite: Diagnostic Medical Imaging Radiography 1111 and Diagnostic Medical Imaging Radiography 1131; all with a grade of C or better, or equivalent or consent of instructor. (2 lecture hours, 2 lab hours)

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. Prerequisite: Admission to the Diagnostic Medical Imaging Radiography program is required. Diagnostic Medical Imaging Radiography 1112, Diagnostic Medical Imaging Radiography 1121 and Diagnostic Medical Imaging Radiography 1132; all with a grade of C or better, or equivalent or consent of instructor. (2 lecture hours, 2 lab hours)

DMIR 1140
Ethics & Law Diagnostic Medical Imaging
1 Credit Hour
Provides a fundamental background in medical ethics and law specific to diagnostic medical imaging. Students will use actual case studies and clinical scenarios for application of topics discussed. Prerequisite: Admission to Diagnostic Medical Imaging Radiography program and Diagnostic Medical Imaging Radiography 1113, Diagnostic Medical Imaging Radiography 1122 and Diagnostic Medical Imaging Radiography 1133; all with a grade of C or better or equivalent or consent of instructor. (1 lecture hour)

DMIR 1145
Ethics, Law & Basic Pharmacology
1 Credit Hour
Provides the fundamentals in medical ethics, law, and pharmacology in Radiography. Prerequisite: Diagnostic Medical Imaging Radiography 1113, Diagnostic Medical Imaging Radiography 1122 and Diagnostic Medical Imaging Radiography 1133; all with a grade of C or better or equivalent or consent of instructor. (1 lecture hour)

DMIR 1151
Basic Pharmacology
1 Credit Hour
Basic concepts of pharmacology, drug classification, indications and the types of reactions to diagnostic contrast agents and intravenous medications. Included are the theory of venipuncture and appropriate patient care during these procedures. Prerequisite: Admission to Diagnostic Medical Imaging Radiography program
and Diagnostic Medical Imaging Radiography 1113, Diagnostic Medical Imaging Radiography 1122 and Diagnostic Medical Imaging Radiography 1133; all with a grade of C or better or consent of instructor. (1 lecture hour)

DMIR 1840
Independent Study
1 to 4 Credit Hours
Exploration and analysis of topics within the discipline to meet individual student-defined course description, goals, objectives, topical outline and methods of evaluation in coordination with and approved by the instructor. This course may be taken four times for credit as long as different topics are selected. Prerequisite: Consent of instructor is required. (1 to 4 lecture hours)

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. Prerequisite: Diagnostic Medical Imaging Radiography 1145 with a grade of C or better and Diagnostic Medical Imaging Radiography 2211 with a grade of C or better or consent of instructor. (3 lecture hours)

DMIR 2211
Clinical Education IV
1 Credit Hour
Applied radiography at assigned clinical education centers. Satisfies the clinical objectives and competency requirements as specified in the Radiography program design. Prerequisite: Admission to Diagnostic Medical Imaging Radiography program and Diagnostic Medical Imaging Radiography 1113, Diagnostic Medical Imaging Radiography 1122 and Diagnostic Medical Imaging Radiography 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. Prerequisite: Diagnostic Medical Imaging Radiography 1145 with a grade of C or better and Diagnostic Medical Imaging Radiography 2211 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. Prerequisite: Admission to the Diagnostic Medical Imaging Radiography program is required. Diagnostic Medical Imaging Radiography 2201, Diagnostic Medical Imaging Radiography 2212 and Diagnostic Medical Imaging Radiography 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. Prerequisite: American Registry of Radiologic Technologists Certification and/or Nuclear Medicine Certification or consent of instructor. (2 lecture hours)

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. Prerequisite: Diagnostic Medical Imaging Radiography 1145 with a grade of C or better and Diagnostic Medical Imaging Radiography 2211 with a grade of C or better or consent of instructor. (3 lecture hours)

DMIR 2226
Advanced Pathophysiology
1 Credit Hour
Advanced study of pathophysiology in diagnostic medical imaging of the heart and vascular system, the hematopoietic system, central nervous system and the endocrine system. Included are radiographic interpretation, imaging techniques using the disciplines of Radiography primarily with new digital imaging systems, Computed Tomography, Magnetic Resonance Imaging, and also pathology illustrated using Diagnostic Medical Sonography, Nuclear Medicine Technology, and Positron Emission Tomography. Prerequisite: Admission to the program and consent of instructor is required. (1 lecture hour)

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. Prerequisite: Admission to the Diagnostic Medical Imaging Radiography program is required. Diagnostic Medical Imaging Radiography 2201, or equivalent, Diagnostic Medical Imaging Radiography 2212, or equivalent, and Diagnostic Medical Imaging Radiography 2225, or equivalent, all with a grade of C or better or consent of instructor. (1 lecture hour, 2 lab hours)

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. Prerequisite: Admission to the Diagnostic Medical Imaging Radiography program is required. Diagnostic Medical Imaging Radiography 2201, or equivalent, Diagnostic Medical Imaging Radiography 2212, or equivalent, and Diagnostic Medical Imaging Radiography 2225, or equivalent, all with a grade of C or better or consent of instructor. (3 lecture hours)

DMIR 2280
Radiography Review Seminar
1 Credit Hour
Overview of Radiography coursework in preparation for the national certification examination of the American Registry of Radiologic Technologists (ARRT) based on the content specifications. Content areas included are: radiation protection, equipment operation and maintenance, image production and evaluation, radiographic procedures, and patient care. Strategies in testing, test anxiety, and the computer-based test are included in the course. Prerequisite: Admission to Diagnostic Medical Imaging Radiography program, graduate of a Radiologic Technology program or consent of instructor. (1 lecture hour)

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). 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. Prerequisite: Admission to Diagnostic Medical Imaging Radiography program or consent of instructor. (1 lecture hour)

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. Prerequisite: Admission to Diagnostic Medical Imaging Radiography program or consent of instructor. (1 lecture hour, 2 lab hours)

DMIR 2404
Mammography Quality Mgmt & Instrumentation
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. Prerequisite: Admission to Diagnostic Medical Imaging Radiography program or consent of instructor. (2 lecture hours)

DMIR 2600
Cardiac IV Procedures & Patient Care
3 Credit Hours
Overview of diagnostic, therapeutic, and conduction cardiac studies and percutaneous coronary intervention procedures. Hemodynamics and c calculations related to cardiac studies. Basic concepts of patient care and management for cardiac procedures and infection prevention. Prerequisite: Admission into the Cardiac Interventional Radiography Specialist Program or consent of instructor. (3 lecture hours)

DMIR 2602
Equipment & Instrumentation in CIVR
1 Credit Hour
Equipment and instrumentation utilized in cardiac interventional radiography studies. Prerequisite: Admission into the Cardiac Interventional Radiography Specialist Program or consent of instructor. (1 lecture hour)

DMIR 2604
Clinical Experience in CIVR
3 Credit Hours
Clinical experience in a dedicated cardiac catheterization laboratory setting. Students will perform the fundamental procedures required for certification in cardiac-interventional radiography. Prerequisite: Admission into the Cardiac Interventional Radiography Specialist program certified by the American Registry of Radiologic Technologists (ARRT) and licensed by Illinois Emergency Management Agency (IEMA) or consent of instructor. (6 lab hours)

DMIR 2860
Internship (Career & Technical Ed)
1 to 4 Credit Hours
Course requires participation in Career and Technical Education work experience with onsite supervision. Internship learning objectives are developed by student and faculty member, with approval of employer, to provide appropriate work-based learning experiences. Credit is earned by working a minimum of 75 clock hours per semester credit hour, up to a maximum of four credits. Prerequisite: Consent of instructor and 2.0 cumulative grade point average; 12 semester credits earned in a related field of study; students work with Career Services staff to obtain approval of the internship by the Dean from the academic discipline where the student is planning to earn credit.

DMIR 2865
Internship Advanced (Career & Tech Ed)
1 to 4 Credit Hours
Continuation of Internship (Career and Technical Education). Course requires participation in Career & Technical Education work experience with onsite supervision. Internship learning objectives are developed by student and faculty member, with approval of employer, to provide appropriate work-based learning experiences. Credit is earned by working a minimum of 75 clock hours per semester credit hour, up to a maximum of four credits. Prerequisite: Consent of instructor and 2.0 cumulative grade point average; 12 semester credits earned in a related field of study; students work with Career Services staff to obtain approval of the internship by the Dean from the academic discipline where the student is planning to earn credit.