

DIAGNOSTIC MEDICAL IMAGING (DMI)

DMI 10 3 units

Introduction of Radiologic Technology

54 hours lecture

Prerequisite: AH 60 and AH 61 and ANAT 41.

Grading: letter grade.

This course is a study of the history and basic principles of medical radiography, the mechanics of radiographic exposure, the processing of the latent image, basic electrical and radiation safety measures, and medicolegal issues that relate to the practice of radiologic technology.

Transferable to CSU Only

DMI 11 1 units

Radiographic Techniques

18 hours lecture

Prerequisite: DMI 20.

Grading: letter grade.

This course is a study of the criteria required to select x-ray machine settings to produce diagnostic quality radiographs and the compensations in radiographic technique that are required for pathologic conditions.

Transferable to CSU Only

DMI 12 3 units

Contrast Fluoroscope/Radiographic Proced.

54 hours lecture

Corequisite: DMI 11.

Grading: letter grade.

This course is a study of basic Fluoroscopy: Radiographic Contrast Media administration, pharmacology, safety, and treatments. Contrast Media examinations, Special Procedures, Digital Angiography, Vascular and Non-Vascular intervention are also discussed within the scope of this course.

Transferable to CSU Only

DMI 14 3 units

Trends and Self-Assessment in Rad Tech

54 hours lecture

Prerequisite: DMI 15 or current Certified Radiologic Technologist (CRT).

Grading: letter grade.

Comprehensive review of the diagnostic medical imaging core curriculum. Serves as a preparation for state certification and national registry exams.

Transferable to CSU Only

DMI 15 3 units

Computer Applications in Radiology

54 hours lecture

Prerequisite: DMI 24.

Grading: letter grade.

This course is a study of the history of computer systems, hardware and software, and their uses in radiology. Specific areas covered are: CT, Digital Imaging, MRI, and Picture Archiving Systems.

Transferable to CSU Only

DMI 20 3 units

Introduction to Radiologic Physics

54 hours lecture

Prerequisite: DMI 10.

Grading: letter grade.

This course provides a study of the basic principles of physics involved in the production, behavior, modification, and control of radiation.

Transferable to CSU Only

DMI 21 2 units

Applied Radiological Physics

18 hours lecture, 54 hours laboratory

Prerequisite: DMI 20.

Grading: letter grade.

This course is a study of the application of the interaction of radiation and matter, technique manipulation, quality assurance, and quality control. Students are introduced to advanced Medical Imaging including: digital imaging; ultrasound; nuclear medicine; radiation oncology; PET; SPECT; and bone densitometry.

Transferable to CSU Only

DMI 24 3 units

Radiation: Biology and Protection

54 hours lecture

Prerequisite: DMI 21.

Grading: letter grade.

This course presents a history of ionizing radiation exposure to humans. Cellular and biologic effects of ionizing radiation are explored, with specific emphasis as to ways of limiting exposure to patients and personnel. State and Federal regulations are discussed as they pertain to Diagnostic Medical Imaging.

Transferable to CSU Only

DMI 30 3 units

Positioning for General Diagnostic Rad

36 hours lecture, 54 hours laboratory

Prerequisite: DMI 20.

Recommended Preparation: DMI 11.

Grading: letter grade.

This course is the study of positioning for general and specialized radiologic exams of the skeletal system and adjacent organ systems. The student will develop skill in positioning the patient, film, and x-ray tube, and select appropriate techniques to produce diagnostic quality radiographic images.

Transferable to CSU Only

DMI 31 3 units

Positioning for Cranial Radiography

36 hours lecture, 54 hours laboratory

Prerequisite: DMI 30.

Grading: letter grade.

This course is the study of positioning for general and specialized radiologic exams of the cranium and its contents. The student will develop skill in positioning the patient, film and x-ray tube, and select appropriate techniques to produce diagnostic quality radiographic images.

Transferable to CSU Only

DMI 40A 2.5 units

Clinical Radiology

144 hours laboratory

Prerequisite: DMI 10 and DMI 20.

Grading: letter grade.

This course is the clinical application of theoretical knowledge to the practice of radiologic technology, correlation of clinical experiences, training and career goals, interpersonal relations, job oriented problems and image quality control. The course includes an assignment to a radiology department in an accredited hospital for clinical experience.

Transferable to CSU Only

DMI 40B 7.5 units

Clinical Radiology

18 hours lecture, 351 hours laboratory

Prerequisite: DMI 40A.

Grading: letter grade.

This course is the clinical application of theoretical knowledge to the practice of radiologic technology, correlation of clinical experiences, training and career goals, interpersonal relations, job-oriented problems and image quality control. The course includes an assignment to a radiology department in an accredited hospital for clinical experience.

Transferable to CSU Only

DMI 40C 6 units

Clinical Radiology

18 hours lecture, 270 hours laboratory

Prerequisite: DMI 40B.

Grading: letter grade.

This course is the clinical application of theoretical knowledge to the practice of radiologic technology, correlation of clinical experiences, training and career goals, interpersonal relations, job-oriented problems and image quality control. The course includes an assignment to a radiology department in an accredited hospital for clinical experience.

Transferable to CSU Only

DMI 40D 11 units

Clinical Radiology

18 hours lecture, 558 hours laboratory

Prerequisite: DMI 40C.

Grading: letter grade.

This course is the clinical application of theoretical knowledge to the practice of radiologic technology, correlation of clinical experiences, training and career goals, interpersonal relations, job oriented problems and image quality control. The course includes an assignment to a radiology department in an accredited hospital for clinical experience.

Transferable to CSU Only

DMI 40E 11 units

Clinical Radiology

18 hours lecture, 558 hours laboratory

Prerequisite: DMI 40D.

Grading: letter grade.

This course is the clinical application of theoretical knowledge to the practice of radiologic technology, correlation of clinical experiences, training and career goals, interpersonal relations, job-oriented problems and image quality control. The course includes an assignment to a radiology department in an accredited hospital for clinical experience.

Transferable to CSU Only

DMI 60 3 units

Radiologic Pathology

54 hours lecture

Prerequisite: ANAT 41 and DMI 11.

Grading: letter grade.

This course is an introduction to the study of disease as it relates to radiologic technology. It includes the causes, signs, symptoms and radiographic demonstration of common human diseases. The course acquaints the student with various pathologic conditions and their impact on the radiographic process.

Transferable to CSU Only

DMI 61 2 units

Fluoroscopy

36 hours lecture, 18 hours laboratory

Prerequisite: DMI 40D or Equivalent.

Corequisite: DMI 14.

Grading: letter grade.

This course includes the principles of radiation protection, fluoroscopy and viewing equipment, recording systems, quality control, patient positioning and regulatory provisions associated with fluoroscopy. This course prepares students to obtain a Department of Health Services Fluoroscopy permit.

Transferable to CSU Only

DMI 222 0.5 units

Venipuncture for Medical Imaging

9 hours lecture, 9 hours laboratory

Prerequisite: DMI 12 and AH 61.

Grading: letter grade or pass/no pass.

This course is designed for instruction and supervised practice of the concepts and techniques of venipuncture. This course will partially fulfill the requirements of the California Health and Safety Code Section 106985 pertaining to Radiologic Technologists.

DMI 401 3 units

Physical Principles of MRI

54 hours lecture

Prerequisite: Possession of a valid Certified Radiologic Technologist (CRT) and/or American Registry of Radiologic Technologist (ARRT) license.

Recommended Preparation: DMI 14 and DMI 40E.

Grading: letter grade.

This course provides the student with a comprehensive overview of Magnetic Resonance Imaging (MRI). Included are image acquisition; MRI equipment, terminology, and instrumentation; tissue characteristics; basic patient and personnel safety; patient assessment and preparation; imaging parameters, and quality assurance. The course is designed to allow practicing technologists the opportunity to acquire the necessary skills and knowledge to qualify for national licensure as MRI technologists.

DMI 402 3 units**Magnetic Resonance Imaging Procedure****54 hours lecture**

Prerequisite: Possession of a valid Certified Radiologic Technologist (CRT) and/or American Registry of Radiologic Technologist (ARRT) license.

Grading: letter grade.

This course includes imaging techniques related to the Central Nervous System, neck thorax, musculoskeletal system and abdomen and pelvic regions. Specific clinical application, coils available and their use, consideration in the scan sequences, specific choices of protocols, and positioning criteria will be included. Planes that best demonstrate anatomy and the signal characteristics of normal and abnormal structures are discussed.

DMI 403 3 units**Cross-Sectional Anatomy****54 hours lecture**

Prerequisite: Possession of a valid Certified Radiologic Technologist (CRT) and/or American Registry of Radiologic Technologist (ARRT) license.

Recommended Preparation: ANAT 41.

Grading: letter grade.

This is a study of human anatomy as seen in axial, sagittal, and coronal planes as would be shown on CT or MRI examinations. Bony, muscular, vascular, soft tissues, and organs of the following anatomical regions are studied: central nervous system, head, neck, musculoskeletal, cardiovascular, thorax, abdomen, and pelvis.

DMI 404 3 units**MRI/CT Pathology****54 hours lecture**

Prerequisite: DMI 60 or DMI 403.

Grading: letter grade.

This course familiarizes the student with the common pathologies demonstrated on MRI/CT examinations and their appearance with various imaging protocols. The course content will include all commonly imaged body systems and structures.

DMI 405A 2.5 units**MRI Clinical Practicum****144 hours laboratory**

Prerequisite: Possession of a valid Certified Radiologic Technologist (CRT) and/or American Registry of Radiologic Technologist (ARRT) license.

Grading: letter grade.

Formerly DMI 405AB. This course allows the students the opportunity to practice the skills necessary to obtain high quality MR images, to objectively alter protocols based on patient pathology or physical condition, and to identify image quality problems and make appropriate corrections.

DMI 405B 2.5 units**MRI Clinical Practicum****144 hours laboratory**

Prerequisite: DMI 405A.

Grading: letter grade.

This course allows the students the opportunity to continue to practice the skills necessary to obtain high quality MR images, to objectively alter protocols based on patient pathology or physical condition, and to accumulate the required examinations designated by the American Registry of Radiologic Technologists.

DMI 406 3 units**Computerized Tomography Physics****54 hours lecture**

Prerequisite: Possession of a valid Certified Radiologic Technologist (CRT) and/or American Registry of Radiologic Technologist (ARRT) license.

Grading: letter grade.

This course provides the student with a comprehensive understanding of the physical principles and instrumentation involved in computed tomography (CT). Included are: physics topics, CT systems and operation data acquisition and display, and radiation protection practices. The course is designed to allow practicing technologists the opportunity to acquire the necessary skills and knowledge to qualify for national licensure as CT technologists.

DMI 407 3 units**Computerized Tomography Procedures****54 hours lecture**

Prerequisite: Possession of a valid Certified Radiologic Technologist (CRT) and/or American Registry of Radiologic Technologist (ARRT) license.

Grading: letter grade.

This course provides the student with detailed instruction on imaging techniques for computer tomography (CT). Procedures included are central nervous and musculoskeletal systems, neck, thorax, abdomen and pelvis. Specific clinical application, indications for the procedure, patient education, assessment and preparation, positioning, contrast media usage, and image processing will be included. CT images will be reviewed for quality, anatomy and pathology.

DMI 462 3.5 units**Mammography****54 hours lecture, 27 hours laboratory**

Prerequisite: DMI 40D or equivalent.

Grading: letter grade.

This course prepares students to obtain the Department of Health Services Mammography license. It includes principles of components of dedicated mammography equipment, radiation protection legislation, quality assurance regulations and mammographic positioning.