RADIOLOGIC TECHNOLOGY (RDTC)

RDTC 110, INTRODUCTION TO RADIOGRAPHY 3 (3)
Course will present the history of radiology, preparation for clinical education, basic radiation production and protection, and communication with various client populations. Also an introduction to primary exposure factors, image production, processing, legal issues, ethics and radiographic equipment will be presented.
General Education: IN1, IN2, IN3, IN4
Course Entry Requirement(s): Prerequisite: One year of high school algebra (Accuplacer test) one year of a high school lab science both with a grade of C or higher. Concurrent: C or higher in RDTC 114, MTHM 158 or MTHM 168, BIOG 221, ALHN 110, and ALHN 113 to continue.
Typically Offered: Fall Semester

RDTC 114, RADIOGRAPHIC PROCEDURES I 4 (21)
Radiographic Procedures I orients the radiography student to detailed skeletal anatomy and positioning principles for chest, abdomen, upper and lower extremities, shoulder, pelvis and mobile radiography. Includes technical considerations for working with special populations. Laboratory includes manipulation and use of X-ray, and application and practice of positioning principles and image evaluation. Laboratory required. (A special fee will be assessed.)
General Education: IN1, IN2
Course Entry Requirement(s): Prerequisite: One year of high school algebra (Accuplacer test) and one year of a high school laboratory science both will a grade of C or higher. Concurrent: C or higher in RDTC 110, BIOG 221, and MTHM 158 or MTHM 168 to continue the sequence
Typically Offered: Fall Semester

RDTC 116, RADIOGRAPHIC PROCEDURES II 4 (21)
Radiographic Procedures II presents detailed skeletal anatomy and positioning principles for urinary, gastrointestinal, biliary systems, vertebral column, skull, sinus and facial bones. Includes positioning and technical considerations for trauma radiography. Laboratory provides use of X-ray, application and practice of positioning principles and image evaluation. Laboratory required. (A special fee will be assessed).
General Education: IN1, IN2
Course Entry Requirement(s): Prerequisite: C or higher in RDTC 114; Concurrent: C or higher in RDTC 117, RDTC 118 and BIOG 222 or BIOG 122 to continue the sequence
Typically Offered: Spring Semester

RDTC 117, RADIOGRAPHIC PHYSICS AND EQUIPMENT 3 (3)
Radiologic equipment and the principles underlying the production of X-rays and the operation of imaging equipment. Atomic structure, the electromagnetic spectrum, electricity, and electromagnetism, are covered. Includes the X-ray circuit, X-ray tubes, generators and transformers, fluoroscopic imaging, grids, automatic exposure control devices, principles of tomography and digital radiography.
General Education: IN1
Course Entry Requirement(s): Prerequisite: C or higher in RDTC 110 and RDTC 114; Concurrent: C or higher in RDTC 116 and RDTC 118 to continue the sequence
Typically Offered: Spring Semester

RDTC 118, IMAGING TECHNIQUE 4 (4)
This course is a detailed study of X-ray interactions, primary exposure factors and their effect on contrast and exposure, image receptor characteristics, primary and secondary radiation, technique formulation and exposure compensation. Required experiments apply theory to practice.
General Education: IN1
Course Entry Requirement(s): Prerequisite: C or higher in RDTC 110 and RDTC 114; Concurrent: C or higher in RDTC 116 and RDTC 117 to continue the sequence
Typically Offered: Spring Semester

RDTC 119, ADVANCED PROCEDURES AND MODALITIES 4 (23)
Advanced contrast procedures performed in radiology departments. Includes an introduction to angiography and cardiac catheterization. Also includes an introduction to the advanced modalities of CT, MRI, Mammography, Ultrasound and Nuclear Medicine. Selected clinical experience in hospital X-ray departments. (A special fee will be assessed.)
General Education: IN1
Course Entry Requirement(s): Prerequisite: C or higher in RDTC 116, RDTC 117 and RDTC 118
Typically Offered: Summer Semester

RDTC 211, IMAGE CRITIQUE 2 (2)
Critical evaluation of the radiograph, with emphasis on quality control, improvement of the radiograph, criteria that identify how improvements can be made, and adjustments to radiographic technique.
General Education: IN1
Course Entry Requirement(s): Prerequisite: C or higher in RDTC 119; Concurrent: C or higher in RDTC 212 and RDTC 213 to continue the sequence
Typically Offered: Fall Semester

RDTC 212, RADIOLOGIC PATHOLOGY 2 (2)
Radiographic pathology will orient the student to the study of disease, using radiographic examples. Signs, symptoms, causes and prognosis, as well as radiographic appearance of disease, will be discussed. Additionally, explanations of radiographic technical factors related to pathology will be included. This class will be taught with the use of videotapes, lectures and radiographic examples of disease processes.
General Education: IN1
Course Entry Requirement(s): Prerequisite: C or higher in RDTC 119; Concurrent: C or higher in RDTC 211 and RDTC 213 to continue the sequence
Typically Offered: Fall Semester

RDTC 213, RADIOLOGIC IMAGING SCIENCE 5 (28)
Advanced topics in physics and technique or radiology. Includes an overview of radiologic imaging science, and in-depth evaluation of photographic and geometric factors effecting radiographic quality. Technical formula used for imaging are covered in detail. Advanced topics in CT imaging and Quality Control for radiologic equipment will be covered. Laboratory required. (A special fee will be assessed.)
General Education: IN1
Course Entry Requirement(s): Prerequisite: C or higher in RDTC 119; Corequisite: C or higher in RDTC 211 and RDTC 212 to continue the sequence
Typically Offered: Fall Semester

RDTC 234, TRENDS IN RADIOLOGY 5 (27)
Current issues and topics in Radiologic Technology. The course will present information on radiology information systems and PACS systems, Quality management, Quality Assurance in Radiology, ethical and legal issues, and other current topical issues in Radiology. Focus areas in radiology will be reviewed in preparation for graduation. This course is also the program capstone, in which final competency in clinical and didactic studies will be evaluated. (A special fee will be assessed).
General Education: IN1, IN4
Course Entry Requirement(s): Prerequisite: C or higher in RDTC 211, RDTC 212 and RDTC 213; Corequisite: C or higher in RDTC 236
Typically Offered: Spring Semester

RDTC 236, RADIOBIOLOGY AND PROTECTION 2 (2)
In-depth coverage of radiobiology including sources of radiation and the effects of radiation on human tissue and the subsequent effects on the body as a whole. Application of principles of radiobiology to protection techniques for radiation workers and patients. Includes analysis of dose-response models, risk assessment techniques, and methods of determining and evaluating patient dose.
Course Entry Requirement(s): Prerequisite: C or higher in RDTC 211, RDTC 212 and RDTC 213; Corequisite: C or higher in RDTC 234
Typically Offered: Spring Semester

RDTC 237, COMPUTED TOMOGRAPHY 4 (4)
An accelerated course in Computed Tomography (CT). This course will cover all ARRT required learning modules in CT including: CT Basics, Equipment and Instrumentation, Data Acquisition, Image Processing and Reconstruction, Patient Safety, Image Quality, Procedures, Cross-sectional Anatomy, Additional Applications, and Pathology. This course will not include clinical CT exam completion required by the ARRT prior to the CT registry exam. Students planning on taking the ARRT exam in CT must be able to complete CT competency requirements on their own.
General Education: IN1, IN4
Course Entry Requirement(s): Prerequisite: ARRT Certification in Radiography
Typically Offered: Spring Semester

RDTC 299, INDIVIDUALIZED STUDIES IN RADIOLOGIC TECHNOLOGY 1-3 (16)
An in-depth study of areas in radiologic technology presented by discussion and/or individual research and reading. Topics will vary. Repeatable up to six (6) times for a total of six (6) credit hours.
Course Entry Requirement(s): Prerequisite: Graduation from foreign Radiography program and division approval.
Typically Offered: Offer as required