

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. Prerequisite: One year of high school algebra and one year of a high school laboratory science, both with a grade of C" or better.

General Education: IN1, IN2, IN3, IN4

Course Entry Requirement(s): Prerequisite: One year of high school algebra (Compass test) and one year of a high school laboratory science both with a grade of C or better. Concurrent: RDTC 114, MTHM 151, BIOG 121, ALHN 112, ALHN 113.

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, processing and darkroom equipment, and application and practice of positioning principles and image evaluation. Laboratory required. (A special fee will be assessed.) Prerequisite: One year of high school algebra and one year of a laboratory science, both with a C" letter grade or better.

General Education: IN1, IN2

Course Entry Requirement(s): Prerequisite: One year of high school algebra (Compass test) and one year of a high school laboratory science both will a grade of C or better. Concurrent RDTC 110, BIOG 121, MTHM 151

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, processing and darkroom equipment, 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: RDTC 114; Concurrent: RDTC 117, RDTC 118 and BIOG 122

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: RDTC 110, RDTC 114; Concurrent: RDTC 116 and RDTC 118

Typically Offered: Spring Semester

RDTC 118, IMAGING TECHNIQUE AND PROCESSING 4 (4)

This course is a detailed study of X-ray interactions, primary exposure factors and their effect on contrast and density, image receptor characteristics, intensifying screens, processing, primary and secondary radiation, technique formulation and exposure compensation. Required experiments apply theory to practice.

General Education: IN1

Course Entry Requirement(s): Prerequisite: RDTC 110, RDTC 114; Concurrent: RDTC 116 and RDTC 117

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: 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: RDTC 119; Concurrent RDTC 212 and RDTC 213

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: RDTC 119; Concurrent RDTC 211 and RDTC 213

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, as well as film, film processing, sensitometer and Quality Control for processors and radiologic equipment will be covered. Laboratory required. (A special fee will be assessed.)

General Education: IN1

Course Entry Requirement(s): Prerequisite: RDTC 119; Corequisite: RDTC 211 and RDTC 212

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. This course contains an opportunity for experiential learning. (A special fee will be assessed).

General Education: IN1, IN4

Course Entry Requirement(s): Prerequisite: RDTC 211, RDTC 212 and RDTC 213; Corequisite: 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: RDTC 211 and RDTC 212 and RDTC 213; Corequisite: RDTC 234

Typically Offered: Spring Semester

RDTC 299, INDIVIDUALIZED STUDIES IN RADIOLOGIC TECHNOLOGY 1-2 (16)

An in-depth study of various areas of radiologic technology presented by discussion and/or individual research and reading, also including clinical experience to attain competency in radiologic procedures. Prerequisite: Graduation from foreign Radiography program and Divisional approval.

Course Entry Requirement(s): Prerequisite: Graduation from foreign Radiography program and divisional approval.

Typically Offered: Offer as required