Computed Tomography Program Courses (Radiation Sciences) (RSCT)

This is a list of all computed tomography program courses. For more information, see Radiation Sciences.

RSCT:4100 Sectional Anatomy for Imaging Sciences 3 s.h.
Sectional anatomy identifiable on computed tomography and magnetic resonance imaging, including transverse, coronal, and sagittal planes. Prerequisites: ACB:3110 or HHP:1100 or HHP:1150 or HHP:3105 or HHP:3115.

RSCT:4105 Computed Tomography Clinical Internship I 2 s.h.
Clinical internship scheduled at University of Iowa Hospitals & Clinics; rotation through CT scanners, 3-D lab, and radiation therapy departments; competency and objective-based education with required clinical performance evaluations; clinical coordinator facilitates schedules, rotations, learning objectives, evaluations, and competencies; experience facilitated by CT technologists, radiologists, residents, and coordinator; participation in routine and advanced CT scans; performance expectations become progressively higher as student gains experience and skills. Requirements: acceptance to B.S. radiation sciences RT/CT track.

RSCT:4110 CT/MRI Pathology 3 s.h.
Common pathological conditions found in CT and MRI images; protocol appearance variations; units of CNS, musculoskeletal, neck/thorax, and abdominopelvic pathology; textbook readings, in-class discussions, special projects including case studies and presentations. Requirements: concurrent enrollment in RSCT:4100, if not taken as a prerequisite, or at least 3 months fulltime CT/MRI clinical experience.

RSCT:4115 Computed Tomography Clinical Internship II 3 s.h.
CT scanners, 3-D lab, and radiation therapy department rotation at University of Iowa Hospitals & Clinics; competency and objective-based education with required clinical performance evaluations; clinical coordinator facilitates schedule, rotations, learning objectives, evaluations, and competencies; experience facilitated by CT technologists, radiologists, residents, and coordinator; participation in routine and advanced CT scans; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSCT:4105.

RSCT:4120 Computed Tomography Procedures I 3 s.h.
Computed tomography procedures of the head, neck, thorax, mediastinum, abdomen, and pelvis; positioning techniques, patient preparation, monitoring and care, indications and contraindications for procedures; contrast media usage; basic protocol information with adjustments to tailor procedures for patient's indications; brief units on patient care relevant to CT; CT parameters and equipment. Corequisites: RSCT:4100. Requirements: acceptance to B.S. radiation sciences RT/CT track or ARRT primary certification in radiologic technology, nuclear medicine, or radiation therapy.

RSCT:4125 Computed Tomography Procedures II 3 s.h.
Imaging information in musculoskeletal exams, 3-D reconstruction, CTAs; cardiac, including gating, biopsies, drains, post-myelography, radiation therapy planning, and 4-D imaging; CT arthrography, PET/CT, SPECT/CT, virtual colonoscopy; procedure indications and contraindications, patient and room preparation, positioning techniques, contrast media usage, and scan parameters; basic protocol information and how to tailor procedures to a patient's indications. Prerequisites: RSCT:4120. Corequisites: RSCI:4110, if not taken as a prerequisite.

RSCT:4130 Computed Tomography Physical Principles and QC 4 s.h.
Physical principles and instrumentation; historical development and evolution of CT; characteristics of radiation, beam attenuation, linear attenuation coefficients, tissue characteristics, Hounsfield numbers, data acquisition, image manipulation techniques, tube configuration, collimation design and function; detectors, image quality factors, functions of CT computer and array processor; image processing and display examined from data acquisition through postprocessing and archiving; radiation protection practices and QC. Requirements: acceptance to B.S. radiation sciences RT/CT degree track or ARRT primary certification in radiologic technology, nuclear medicine, or radiation therapy.

RSCT:4215 Computed Tomography Clinical Internship III 3 s.h.
CT scanners, 3-D lab, and radiation therapy department rotation at University of Iowa Hospitals & Clinics; competency and objective-based education with required clinical performance evaluations; clinical coordinator facilitates schedule, rotations, learning objectives, evaluations, and competencies; experience facilitated by CT technologists, radiologists, residents, and coordinator; participation in routine and advanced CT scans; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSCT:4115.