

Fundamentals of Diagnostic Imaging (CLSC-5102)

Course Calendar, Fall 2010

DATE	TOPIC
WEEK 1	
September 7	Course introduction and overview; the black box approach; history of diagnostic imaging
September 8	Review of physics concepts including matter, energy, electricity, magnetism and radiation
WEEK 2	
September 14	Starting with the end in mind; describing radiographs and imaging vocabulary
September 15	The controlling factors, mAs and kVp, and how they affect the films
WEEK 3	
September 21	The tube – anatomy and cathode processes
September 22	The tube – anode processes and connecting back to the big picture
WEEK 4	
September 28	The generator – purpose and types
September 29	The generator – effect of type on dose and connecting back to the big picture
WEEK 5	
October 5	The subject – interactions with matter and differential absorption
October 6	The subject – subject contrast and connecting back to the big picture
WEEK 6	
October 12	Guest Lecture – Radiology Grand Rounds
October 13	In-class Exercise
WEEK 7	
October 19	The film and screen – image formation and intensifying screens
October 20	Review for midterm written exam
WEEK 8	
October 26	Midterm written exam
October 27	The processor – film processing and connecting back to the big picture
October 29	Midterm practical exam
WEEK 9	
November 2	The extras – collimation, grids, filtration and beam hardening
November 3	The extras – geometric distortion and magnification, penumbra and image quality
WEEK 10	
November 9	Radiobiology and radiation protection
November 10	Digital x-ray imaging – computed radiography (CR) and digital radiography (DR)
WEEK 11	
November 16	Introduction to cross-sectional imaging and computed tomography (CT)
November 17	CT imaging continued
WEEK 12	
November 23	Introduction to magnetic resonance imaging (MR)

November 24	MR imaging continued
WEEK 13	
November 30	Nuclear medicine – radiotracers, scintigraphy and single photon emission computed tomography (SPECT)
December 1	Nuclear medicine – positron emission tomography (PET)
WEEK 14	
December 7	Ultrasound
December 8	Review for final exams
December 10	Final practical exam (9 AM)
WEEK 15	
December 15	Final written exam (7 AM)

The course director reserves the right to make changes to this document, at any time, with or without notice.