

Fundamentals of Diagnostic Imaging (CLSC-5102)

Course Calendar, Spring 2010

DATE	TOPIC
WEEK 1	
January 12	Course introduction and overview; the black box approach; history of diagnostic imaging
January 14	Review of physics concepts including matter, energy, electricity, magnetism and radiation
WEEK 2	
January 19	Starting with the end in mind; describing radiographs and imaging vocabulary
January 21	The controlling factors, mAs and kVp, and how they affect the films
WEEK 3	
January 26	The tube – anatomy and cathode processes
January 28	The tube – anode processes and connecting back to the big picture
WEEK 4	
February 2	The generator – purpose and types
February 4	The generator – effect of type on dose and connecting back to the big picture
WEEK 5	
February 9	The subject – interactions with matter and differential absorption
February 11	The subject – subject contrast and connecting back to the big picture
WEEK 6	
February 16	The film and screen – image formation and intensifying screens
February 18	The processor – film processing and connecting back to the big picture
WEEK 7	
February 23	Review for midterm written exam
February 25	Midterm written exam
WEEK 8	
March 2	Discuss midterm written exam
March 4	Midterm practical exam
WEEK 9	
March 9	The extras – collimation, grids, filtration and beam hardening
March 11	The extras – geometric distortion and magnification, penumbra and image quality
WEEK 10	
March 16	Radiobiology and radiation protection
March 18	Digital x-ray imaging – computed radiography (CR) and digital radiography (DR)
WEEK 11	
March 23	Introduction to cross-sectional imaging and computed tomography (CT)
March 25	CT imaging continued
WEEK 12	
March 30	Introduction to magnetic resonance imaging (MR)
April 1	MR imaging continued

WEEK 13	
April 6	Nuclear medicine – radiotracers, bone scans and single photon emission computed tomography (SPECT)
April 8	Nuclear medicine – positron emission tomography (PET) and other metabolic imaging modalities
WEEK 14	
April 13	Final practical exam
April 15	Review for final written exam
WEEK 15	
April 20	Final written exam

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