

# Fundamentals of Diagnostic Imaging (CLSC-5102)

## Course Calendar, Spring 2011

DATE	TOPIC
<b>WEEK 1</b>	
January 11	Course introduction and overview; the black box approach; case scenarios; history of diagnostic imaging
January 12	Review of physics concepts including matter, energy, electricity, magnetism and radiation
<b>WEEK 2</b>	
January 18	The big picture – starting with the end in mind; describing radiographs and imaging lexicon
January 19	The controlling factors, mAs and kVp, and how they affect the films
<b>WEEK 3</b>	
January 25	The tube – anatomy and cathode processes
January 26	The tube – anode processes and connecting back to the big picture
<b>WEEK 4</b>	
February 1	Class cancelled due to inclement weather
February 2	Class cancelled due to inclement weather
<b>WEEK 5</b>	
February 8	The generator – purpose, types, effect of type on dose and connecting back to the big picture
February 9	Class cancelled due to inclement weather
<b>WEEK 6</b>	
February 15	The subject – interactions with matter and differential absorption
February 16	The subject – subject contrast and connecting back to the big picture
<b>WEEK 7</b>	
February 22	In-class Exercise
February 23	Review for midterm exam
February 25	<b>Midterm exam (7 AM)</b>
<b>WEEK 8</b>	
March 1	Discuss midterm exam
March 2	The film and screen – image formation and intensifying screens
<b>WEEK 9</b>	
March 8	The processor – film processing and connecting back to the big picture
March 9	The extras – collimation, grids, filtration and beam hardening
<b>WEEK 10</b>	
March 15	The extras – geometric distortion and magnification, penumbra and image quality
March 16	Radiobiology and radiation protection
<b>WEEK 11</b>	
March 22	Digital x-ray imaging – computed radiography (CR) and digital radiography (DR)
March 23	Introduction to cross-sectional imaging and computed tomography (CT)

<b>WEEK 12</b>	
March 29	Introduction to magnetic resonance imaging (MR)
March 30	MR imaging continued
<b>WEEK 13</b>	
April 5	Nuclear medicine – radiotracers, scintigraphy, single photon emission computed tomography (SPECT) and positron emission tomography (PET)
April 6	Application of diagnostic imaging in clinical practice (case scenarios)
April 8	<b>Final practical exam (7 AM)</b>
<b>WEEK 14</b>	
April 12	Review for final exams
April 13	Review for final exams
<b>WEEK 15</b>	
April 18	<b>Final written exam (11 AM)</b>

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