

ECE/BioE 380 - Biomedical Imaging

Fall 2021

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Text: Fundamentals of Medical Imaging (Suetens); The Essential Physics of Medical Imaging (Bushberg)

Date	Lecture number	Book Chapter	Topic	HW Hand-out	HW Due	HW Graded
August	24	1 (Bushberg)	Intro to Biomedical Imag.			
	26	1 (Bushberg)	Intro to Biomedical Imag.			
	31	2 Notes	Fourier Transform and Properties I	HW #1 (L1-2)		
September	2	2 Notes	Fourier Transform and Properties II			
	7	1 (Suetens); 4.1-4.5, 4.7-4.9 (Bushberg)	Image Properties and Processing	HW #2 (L3)	HW #1 (L1-2)	
	9	2 (Suetens); 6.1-6.2, 7.1-7.2, 7.5 (Bushberg)	X-Ray Imaging			
	14	2 (Suetens); 6.1-6.2, 7.1-7.2, 7.5 (Bushberg)	X-Ray Imaging	HW #3 (L4)	HW #2 (L3)	HW #1 (L1-2)
	16	2 (Suetens); 6.1-6.2, 7.1-7.2, 7.5 (Bushberg)	X-Ray Imaging			
	21	3 (Suetens); 10.1-10.5 (Bushberg)	Computed Tomography (X-ray)		HW #3 (L4)	HW #2 (L3)
	23	3 (Suetens); 10.1-10.5 (Bushberg)	Computed Tomography (X-ray)			HW #3 (L4)
	28		Exam #1 (Lecture 1-4)			
	30		No Class			
October	5	3 (Suetens); 10.1-10.5 (Bushberg)	Computed Tomography (X-ray)	HW #4 (L5)		
	7	3 (Suetens); 10.1-10.5 (Bushberg)	Computed Tomography (X-ray)			
	12	4 (Suetens); 12 (Bushberg)	Magnetic Resonance Imaging	HW #5 (L6, Pt1)	HW #4 (L5)	
	14	4 (Suetens); 12 (Bushberg)	Magnetic Resonance Imaging			
	19	4 (Suetens); 12 (Bushberg)	Magnetic Resonance Imaging			HW #4 (L5)
	21	4 (Suetens); 12 (Bushberg)	Magnetic Resonance Imaging	HW #6 (L6, Pt2)	HW #5 (L6, Pt1)	
	26	4 (Suetens); 12 (Bushberg)	Magnetic Resonance Imaging			
	28	5 (Suetens); 14.1-14.7 (Bushberg)	Ultrasound Imaging			HW #5 (L6, Pt1)
November	2	5 (Suetens); 14.1-14.7 (Bushberg)	Ultrasound Imaging	HW #7 (L7)	HW #6 (L6, Pt2)	
	4	5 (Suetens); 14.1-14.7 (Bushberg)	Ultrasound Imaging			HW #6 (L6, Pt2)
	9		Exam #2 (Lecture 5-6)			
	11	6 (Suetens); 15, 16.1-16.2, 18.1, 19.1-19.3 (Bushberg)	Nuclear Medicine Imaging			
	16	6 (Suetens); 15, 16.1-16.2, 18.1, 19.1-19.3 (Bushberg)	Nuclear Medicine Imaging	HW #8 (L8)	HW #7 (L7)	
	18	6 (Suetens); 15, 16.1-16.2, 18.1, 19.1-19.3 (Bushberg)	Nuclear Medicine Imaging			
	23		Thanksgiving Break			
	25		Thanksgiving Break			
	30	9 Notes	Optical Imaging	HW #9 (L9)	HW #8 (L8)	HW #7 (L7)
December	2	9 Notes	Optical Imaging			
	7		Review		HW #9 (L9)	HW #8 (L8)
	9					HW #9 (L9)
	13		Final Exam (Lecture 1-9)			

Syllabus content subject to change.