

BMEn 5151 - Intro to BioMEMS and Medical Microdevices

Spring 2009, Thursdays, 3:35 p.m. - 5:30 p.m., MCB 2-122, Two Credits, Steven S. Saliterman, MD., FACP.

Week	Date	Lecture	Topic	Required Reading	Other
1	1/22/2009	1st hr.	Intro to BioMEMS	Chapter 1	
		2nd hr.	Silicon Microfabrication Part 1	Chapter 2	
2	1/29/2009	1st hr.	Silicon Microfabrication Part 2		
		2nd hr.	"Soft" Fabrication & Polymers	Chapters 3 & 4	
3	2/5/2009	1st hr.	Microfluidic Principles Part 1	Chapter 5	
		2nd hr.	Microfluidic Principles Part 2		
4	2/12/2009	1st hr.	Nanofabrication Center Tour (EE)	Prof. Gregory Cibuzar	
		2nd hr.	Characterization Facility Tour (Shepherd Labs)	Prof. Greg Haugstad	
5	2/19/2009	1st hr.	Sensor Principles and Microsensors Part 1	Chapter 6	
		2nd hr.	Sensor Principles and Microsensors Part 2		
6	2/26/2009	1st hr.	Microactuators & Drug Delivery	Chapter 7	
		2nd hr.	Clinical Laboratory Medicine	Chapter 8	
7	3/5/2009	1st hr.	Micro Total Analysis Systems ( $\mu$ TAS)	Chapter 9	
		2nd hr.	Detection and Measurement Systems	Chapter 10	
8	3/12/2009	1st hr.	Midterm Examination (Lectures & Chapters 1-8)		
		2nd hr.	Continuation of Above		
Spring Break 3/16/2009-3/20/2009					
9	3/26/2009	1st hr.	Genomics and DNA Microarrays	Chapter 11	
		2nd hr.	Proteomics and Protein Microarrays	Chapter 12	
10	4/2/2009	1st hr.	Emerging BioMEMS Technologies	Chapter 13	
		2nd hr.	Special Lecture	Michael Eggen	
11	4/9/2009	1st hr.	Packaging, Power, Data and RF Safety	Chapter 14	
		2nd hr.	Biocompatibility, FDA, ISO 10993	Chapter 15	
12	4/16/2009	1st hr.	Guest Speaker		
		2nd hr.	Case Presentation & Review		
13	4/23/2009		Student Power Point Sessions		Projects Due
14	4/30/2009		Student Power Point Sessions		
15	5/7/2009		Student Power Point Sessions		
16			Final Exam (Lectures & Chapters 9-15)	2 hr. Closed Book Exam	