BMEn 5151 - Intro to BioMEMS and Medical Microdevices
Spring 2009, Thursdays, Two Credits

Instructor:	Steven S. Saliterman, MD, FACP
	Office Hours: E-mail to schedule time and location.
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Teaching Assistant:	Michael Eggen Office Hours: call or e-mail to arrange Location: Phone: E-mail:
Lecture Time:	3:35 p.m. – 5:30 p.m., Thursdays
Lecture Location:	MCB 2-122
Course Website:	www.tc.umn.edu/~drsteve
Course Objectives:	Students will become acquainted with the following topics: Microfabrication of silicon, glass and polymer devices. Microfluidics and electrokinetics. Sensors, actuators and drug delivery systems. Micro total analysis systems (μTAS) and lab-on-a chip devices (LOC). Clinical laboratory medicine. Detection and measuring systems. Genomics, proteomics, DNA and protein microar-rays. Emerging applications in medicine, research and homeland security. Packaging, power systems, data communication and RF safety. Biocompatibility, FDA and ISO 10993 biological evaluations.
Prerequisites:	Upper senior or graduate level
Required Textbook:	*Fundamentals of BioMEMS and Medical Microdevices* by Steven S. Saliterman (see website)
Optional Reading:	Textbook recommendations on website

Examination:	Midterm: Final:
Homework:	Reading Assignments – 40 pages/week
Class Time:	85% lecture, 10% discussion, 5% Tour of the Nanofabrication Center and Characterization Facility.
Paper:	None
Project:	These are group presentations. Research any aspect of interest in BioMEMS, such as proposing a BioMEMS device, and present as a 10-20 min. Power Point presentation (no paper is necessary). Include discussion of the application, device design, fabrication techniques, testing and if appropriate, biocompatibility. Include references, and be prepared to discuss.
Grading:	Midterm Exam: 40% Project: 10% Presentation 10% Participation Final Exam: 40% Special grading consideration will be given to undergraduate students in the course. The examinations are essay style, and not open book. Do no bring study materials or calculators into the examination room.
Academic Dishonesty:	University Policy Dishonesty may result in failure of the exam, course and suspension from the University.