

BME 538	Medical Instrumentation: Application and Design						
Catalog Data	Basic concept of Medical instrumentation, basic sensors and principles, amplifiers, biopotential electrodes, blood pressure and sound, measurement of respiratory system, chemical biosensors, Cellular measurements, Nervous system measurements, magnetic resonance imaging.						
Course Total Credit Hours:	3	Lecture:	3	Laboratory:	-	Project	-
Prerequisites:	PHSL 410A or CHEM444, or consent of instructor						
Course Coordinator:	Biomedical Engineering Faculty						
Textbooks							
<p>“<i>Bioinstrumentation</i>”, John G. Webster, ISBN: 0-471-26327-3, Wiley publisher, August 2003.</p>							
References							
<p>1. “Medical instrumentation: application and design” / John G. Webster, editor; contributing authors, John W. Clark, Wiley publisher August 1997.</p> <p>2. “Design and Development of Medical Electronic Instrumentation: A Practical Perspective of the Design, Construction, and Test of Medical Devices” by David Prutchi, and Michael Norris, Wiley-Interscience, November 22, 2004.</p>							
Goals	<ol style="list-style-type: none"> 1. To design basic medical instrumentation 2. Function and operation of complex medical instrumentation 						
Projects							
Design of a moderately-complex medical instrumentation such as measurement and analysis of brain waves							
Major CAD Packages							
Last Review:	Spring Semester 2008			Signature:			