

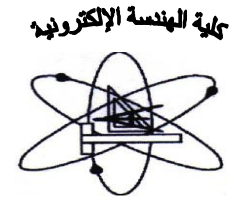
Course Syllabus

Department offering the program: Industrial electronics and Control Engineering
Department offering the course: Industrial electronics and Control Engineering

Course basic information :		
Course Code: AC350	Course Title: Medical electronics	Level : (3) Semester :1
Department requirement	Teaching hours: Lecture [3] Tutorial [2] - Lab [0]	
Course objectives	1. To learn the essential tools used to analyze the biosignals. 2. To study the design methods required for bioinstrumentation circuits 3. To explain the concepts of sensing, activation and transduction and its role in the design of bioinstrumentation circuits.	
Course Contents	Introduction to biomedical instrumentation design - Electrophysiology and applications to instrumentation in (heart-lung-brain-nerves) - Electrodes and bio-signal amplifiers - Biomedical transducers - Effects of the electric field, magnetic field and RF interferences on bio-signals and the methods of suppression -Safety aspects of medical instrumentation	
Assessment		
Weighting of Assessment	- Homework , reports and quizzes : 16 % - Mid-term examination: 16 % - Case study and/or practical exam: % - Final – term examination: 68 % - Other types of assessment: % Total 100 %	
List of text books and references:		
Text books	• J Webster ed., "Medical Instrumentation: Application and Design, Fourth Edition", John	



جامعة المنوفية
كلية الهندسة الإلكترونية
قسم هندسة الإلكترونيات الصناعية والتحكم



	Wiley & Sons Inc., 2010. <ul style="list-style-type: none">• J Webster ed., Physiological Measurements, CRC Press, 2015
Recommended books	<ul style="list-style-type: none">• M. Kutz, "Biomedical Engineering and Design Handbook", Prentice Hall, 2nd edition, 2009

