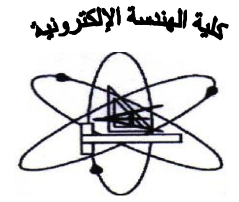


Course Syllabus

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

Course basic information :		
Course Code: AC446	Course Title: Experimental Lab-3	Level : (4) Semester : 2
Department requirement	Teaching hours: Lecture[1] Tutorial [0] - Lab [3]	
Course objectives	<ol style="list-style-type: none">1. To acquire hands-on experience on building an ECG, EMG, EOG measurement device.2. To prepare how the biopotential amplifier works in practice and the design principles affecting the measurement.3. To demonstrate how different interference/noise sources affect the measurement.4. To perform experimental assignments concerning sensors characteristics.	
Course Contents	Introduction-Skin Electrical Resistance and Physiological Response to Stimulation-Body temperature Measurement, Pulse Measurement and Respiratory Rate Measurement- Electrocardiogram (ECG) – Electromyogram (EMG) – Electro Oculogram. (EOG) - Ultrasonic Sensor Experimentation - Humidity Sensor Experimentation - pt100 temperature sensor experimentation - Pressure Sensor Experimentation-Sonar Device-Kidney Device-X-Ray Device-Revision	
Assessment		
Weighting of Assessment	<ul style="list-style-type: none">• Written examination: 45 %• Semester Work<ul style="list-style-type: none">○ Mid-term examination: 10 %○ Practical/laboratory work: 10 %○ Other Assignments/class work : 5 %• Oral Examination: 30 % Total 100 %	



List of text books and references:	
Text books	<ul style="list-style-type: none">• John Enderle , Joseph Bronzino, Introduction to biomedical engineering, Taylor and Francis Group, 2011
Recommended books	<ul style="list-style-type: none">• Cromwell, Biomedical Instrumentation and Measurements, TSTC Publishing, Dec 1, 2010

