

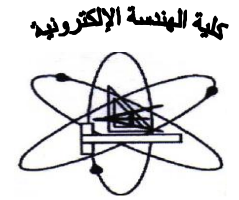
Course Syllabus

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

Course basic information :		
Course Code: AC449	Course Title: Application of industrial electronics	Level : (4) Semester : 2
Department requirement	Teaching hours: Lecture[3] Tutorial [2] - Lab [0]	
Course objectives	<ol style="list-style-type: none">1. To explain the several ways of controlling the different industrial/power electronics with high efficiency and reliability.2. Having acquired a good knowledge of design the industrial electronics applications.3. Having acquired a good knowledge of using microcontrollers in controlling and assessing the industrial electronic applications.	
Course Contents	Introduction - types (two levels/three levels -three terms microcontrollers. Temperature Control- Relay control- AC to AC voltage regulators-Burst control- industrial control- Temperature control using microcontrollers- Industrial temperature controllers-Modeling and control of DC machine.- Position, speed and torque control-SCR control-DC to DC choppers-Microcontrollers. DC machine control-Inverters-DC to AC inverters -Single phase-H-bridge. Inverters-Three phase inverters-Harmonic analysis-Modeling of induction machines-DC-link inverter-variable speed drive-Soft starters/soft stop.	
Assessment		
Weighting of Assessment	- Class tutorial and quizzes : - Mid-term examination: - Case study and/or practical exam: - Final – term examination: - Other types of assessment:	12 % 12 % - % 68 % 8 %
	Total	100 %



جامعة المنوفية
كلية الهندسة الإلكترونية
قسم هندسة الإلكترونيات الصناعية والتحكم



List of text books and references:

Text books	<ul style="list-style-type: none">• M. A. Rashid , " Power Electronics circuits, devices, and Applications ", Prentice Hall, 2004.•
Recommended books	<ul style="list-style-type: none">• Andrzej M. Trzynadlowski, "Introduction to Modern Power ... Designs", First edition, McGraw-Hill, 2008•

