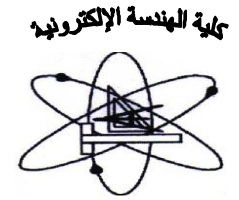


Course Syllabus

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

Course basic information :		
Course Code: AC442	Course Title: Power Electronics Circuits	Level : 4 Semester : 1
Department requirement	Teaching hours: Lecture [3] Tutorial [3] - Lab [0]	
Course objectives	<ol style="list-style-type: none">1. To demonstrate the different categories of power electronics circuits and the related design and control circuits.2. Allowing the students to reduce the current and voltage harmonics that are generated by the power converters with a proper choice of the control strategy.3. To acquire a good knowledge of the techniques for the analysis and design of power converters.4. To prepare applications of power electronics for wind energy systems.5. To acquire the relevant mathematical and software packages and computational skills and problem solving skills.	
Course Contents	Introduction to power - electronics circuits- Silicon-controlled rectifier circuits - AC voltage controllers - Pulse-width modulated inverters - Static switches - DC-DC converters - Power electronics for wind energy systems.	
Assessment		
Weighting of Assessment	- Class tutorial and quizzes : - Mid-term examination: - Final – term examination: - Other types of assessment:	8 % 16 % 68 % 8 % <hr/> Total 100 %
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, 4th Edition 2013.• V. Jagannathan, "Power Electronics : Devices and Circuits ", PHI Learning Pvt. Ltd., 2011
Recommended books	<ul style="list-style-type: none">• Y. S. Lee and M. H. L.Chow " Power Electronics Handbook ", San Diego, CA : Academic Press, 2001.• R. G. Hoft, " Semiconductor Power Electronics ", New York : Van Nostrand Reinhold, 1986.

