

وصف مقرر دراسي Course Description

متطلب		Hours/الساعات				اسم المقرر	رقم ورمز المقرر
متزامن	سابق	تمارين	عملي	نظري	وحدة		
Co-Req.	Pre-Req.	TU	LAB	LT	CR	Course Title	Course Code
-	٣١٢ كهر	1	0	3	3	الكترونيات القدرة	٤٣٢ كهر
-	EE 312					Power Electronics	EE 432
محتويات المقرر:							
نبائط اشباه موصلات القوى، الخصائص الطرفية، مغيرات القوى: مغيرات التيار المتردد الي تيار مستمر، المقومات، المقومات العكسية، مغيرات التيار المستمر الى تيار مستمر، المغيرات الرنانة، تطبيقات في انظمة القوى الكهربائية							
Course Description:							
Power semiconductor devices: terminal characteristics; Power converters: AC/AC converters, rectifiers, inverters, DC/DC converters and resonant converters; Applications in power systems.							
Course Objectives:							
<ol style="list-style-type: none"> 1- Acquaint the students with the basics and concepts related to the power electronic circuits and their applications. 2- Acquaint the students with the basic information of the semiconductor devices used in power electronics and their properties. 3- Enable the students understand different types of power converters and their applications such as the rectifiers, choppers ac voltage controllers and inverters. 4- Students understand the concept of electronic switches converter to control the power flow in the power networks. 5- Provide the students with the skills necessary to enable them analyze, design, simulate and test the simple power electronic circuits. 6- Students prepare for the advanced topics like the electric drives and also for the graduation project. 							
Evaluation methods:							
<ol style="list-style-type: none"> 1- Quizzes 2- Midterm exams 3- Assignments 4- Final exam 							
Text book and references:							
<ol style="list-style-type: none"> 1- Hart, "Introduction to Power Electronics", Prentice Hall (Text) 2- Robert Erikson, "Fundamentals of Power Electronics", Kluwer Academic Publisher (Reference) 							