FUTURE UNIVERSITY IN EGYPT
جامعة المستقبل

Faculty of Engineering & Technology

Graduation Project

Information :

Course Code :	EPR 500	**Level :**	Undergraduate	**Course Hours :**	0.00- Hours

Department : Specialization of Electrical Power Engineering

Instructor Information :

Title	Name	Office hours
Professor	Loai Saadeldeen Nasrt Mansour	
Associate Professor	Walid Atef Hafez ElMetwally Omran	
Lecturer	Khaled Abdel Aty Mohamed Salah Eldin	
Lecturer	Mohamed Ezzat Abdel Rahman Abdelghani	
Lecturer	Mohammed Mokhtar Ibrahim Ahmed	

Area Of Study :

 Develop the students' knowledge about the fundamentals and contemporary topics related to the electrical power domain of the project.
 Train students to apply knowledge of mathematics, science, information technology, electrical power engineering knowledge and practices integrally to design and/or implement a process, component or system related to electrical power engineering.
 Enhance students' programming skills, software tools applications and/or practical capabilities appropriate to the project domain.
 Develop students' soft skills including writing and presentation skills; team work; lifelong learning skills; effectively managing tasks, resources and time; and interface to real life applications.

Description :

An engineering assignment requiring the student to demonstrate initiative and assume responsibility. The student will select a project at the end of the ninth semester. Students can propose their own project. A faculty member will provide supervision and a project report is required at the end of the tenth semester.

Course outcomes :

a.Knowledge and Understanding: :

1 -	Demonstrate the knowledge, fundamentals, theories and/or practices gained during the study program and relevant to the project domain.
2 -	Identify quality assurance systems, codes of practice and standards, and/or safety requirements appropriate to the topic of the project
3 -	Demonstrate contemporary electrical power engineering topics related to the project domain
4 -	Describe design methods and tools for electrical power engineering equipment and systems relevant to the project domain.

b.Intellectual Skills: :	
1 -	Analyze a real-life problem and develop an initial solution.
2 -	Apply the fundamentals, principles and skills gained during the study program in a creative way to the analysis and design of an electrical power component and/or system.
3 -	Develop innovative solutions considering incorporate economic, environmental dimensions and risk management in the design of practical industrial problems.
4 -	Evaluate, with the guarantee procedures of verifying and/or validation, the end-product of an engineering project.
c.Professional and Practical Skills: :	
1 -	Define design objectives, design constraints, measures of design viability, and the evaluation criteria of the final project.
2 -	Apply knowledge of mathematics, science, information technology, design, business context and engineering practice integrally to solve engineering problems.
3 -	Professionally merge the engineering knowledge and skills to design a process, component or system related to electrical engineering.
4 -	Use a wide range of analytical tools, techniques, equipment, and/or software packages pertaining to the project topic.
5 -	Plan an effective design strategy and a project work plan, to ensure project completion on time and within budget.
6 -	Consider all realistic design constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
7 -	Apply quality assurance and follow the appropriate codes and standards.
8 -	Prepare and present technical reports.
9 -	Integrate electrical, electronic and mechanical components with transducers, actuators and controllers in computer controlled systems. (Valid for practical projects only).
10 -	Construct electrical engineering drawings (Autocad) containing the detailed design of the electrical installation works (Valid for Distribution Planning projects only).
d.General and Transferable Skills: :	
1 -	Collaborate effectively within team.
2 -	Work in stressful environment and within constraints.
3 -	Communicate effectively.
4 -	Demonstrate efficient IT capabilities.
5 -	Lead and motivate individuals.
6 -	Effectively manage tasks, time, and resources.
7 -	Search for information and engage in life-long self-learning discipline.
8 -	Acquire entrepreneurial skills.
9 -	Refer to relevant literatures.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Selection of Project topic and its specifications	10		
Literature Review and Background Study	20		

Course Topic And Contents :			
Topic	**No. of hours**	**Lecture**	**Tutorial / Practical**
Planning For The Project: Project activities, work breakdown, time estimates, milestones, scheduling, Gantt charts.	10		
Analysis of the selected project	20		
Design of the selected project	20		
Computer Simulation	20		
Implementation: Autocad drawings for Power Distribution Planning projects, or Printed Circuits/physical modules for PLC and/or microcontroller-based projects	60		
Reviewing/Testing and Finalization	20		
Documentation	20		

Teaching And Learning Methodologies :
Interactive Lecturing
Collective Project
Problem Solving
Brain Storming
Discussion
Experiential Learning
Report
Case-Study
Presentation
Self-Study

Course Assessment :			
Methods of assessment	**Relative weight %**	**Week No**	**Assess What**
Final exam	50.00		
Final Presentation (Defence)	30.00		
Project End-Product	10.00		
Project Final Report	10.00		

Recommended books :
As advised