Faculty of Engineering & Technology

Graduation Project II

Information :

Course Code :	MKT 501	**Level**	:	Undergraduate	**Course Hours :** 4.00- Hours

Department : Specialization of Mechatronics Engineering

Instructor Information :

Title	Name	Office hours
Lecturer	Amr Mohamed Metwally Ismaiel	
Lecturer	Anas Mohamed Abdelrahman Ali	
Lecturer	SAMAH ELSAYED ELMETWALLY ELKHATIB	
Lecturer	MOHAMED ABDELBAR SHAMSELDIN ALY	1
Lecturer	Hassan Mohamed Shams Eldin Elsayed Eleashy	
Lecturer	Mohamed Fathy Abdel Rahman Badran	
Lecturer	Mohamed Ahmed Mahmoud Karali	
Lecturer	Mohamed Ali Mohamed Elsayed Torad	
Lecturer	Abdel Moneim Mohamed El Mahdi Ismail	
Assistant Lecturer	Moustafa Raafat Aziz Shousha	1
Assistant Lecturer	Zakaria Mostafa Abdo Salim Marouf	
Teaching Assistant	Osama Ahmed Ibrahim Mohamed Montaser	
Teaching Assistant	Mohamed Samir Ahmed Mohamed	
Teaching Assistant	Amira Khaled Hasan Mohamed Elkodama	

Area Of Study :

Build and test the mechatronics project designed in MKT500
course.
Learn how to write technical report summarizing their results.
Learn how to make presentation for technical work and make a
poster.

Description :

Capstone Design: Participating students continue the work on the topic selected in
MKT 500. Students are required to present their findings at the end of the project in
the form of a seminar as well as a written formal report. Capstone Projects are intended
to be intensive, active learning projects, requiring significant effort in the planning
and implementation, as well as preparation of a substantial final written work product.
Students should utilize faculty resources and seek consultations from faculty expertise
to get a clear answer about what the project will entail and how it will be implemented.

Course outcomes :

a.Knowledge and Understanding: :		
	1 -	Apply the mechatronics design approach and elements to the design of new project system
	2 -	Know different previous solutions to solve the project needs.
b.Intellectual Skills: :		
	1 -	Select the proper actuators and sensors in the project
	2 -	Analyse the results of experiments based on evaluation metrics.
c.Professional and Practical Skills: :		
	1 -	Ability to program computing device such as arduino, Rasberry Pi, or other computing device for mechatronics project.
	2 -	Prepare a technical presentation report for a given task.
	3 -	Prepare technical report and poster describing project details
d.General and Transferable Skills: :		
	1 -	Work in stressful environment and within constraints of time and resources.
	2 -	Work inside a team.
	3 -	Search for information and engage in life-long self-learning discipline.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Alternative solution evaluation	4	0	4
Decision for a solution	4	0	4
Implementing the selected solution	8	0	8
Troubleshooting and modifications	8	0	8
Assembly and testing for device / system / process	8	0	8
Experimentation/ evaluation/ comparison	8	0	8
Communication skill fundamentals (Report preparation)	8	0	8
Preparation of presentation and poster design	8	0	8
Rehearsal on presentation skills	4	0	4

Teaching And Learning Methodologies :

Reports
Technical contribution and Participation
Oral Presentation
Discussion

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
1st mid term	10.00	6	
2nd mid term	10.00	11	
Final Exam	40.00	16	

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Oral Exam	25.00	16	
Participation and presentations	15.00		

Course Notes :

Lecture notes on the course Moodle page, FUE website.

Recommended books :

1. Text Book:
MIT Guide for Science and Engineering Communication, Zimmerman
and Paradise, MIT press. Second edition.
2- Recommended Readings:
Critical Thinking and Innovation
Mechatronics Handbook.

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