2023
TP-153

Course Specification
(Bachelor)

Course Title:	Graduation Project II
Course Code:	EE1592
Program:	Electrical Engineering
Department:	Electrical Engineering
College:	College of Engineering
Institution:	Imam Mohammad Ibn Saud Islamic University
Version:	V5
Last Revision Date:	01-01-2025

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: (3)					
2. Course type					
A.	☐University	☐College	☒ Department	☐Track	☐Others
B.	☒ Required		☐ Elective		
3. Level/year at which this course is offered: (9th level, 5th year)					
4. Course general Description:					
This is the second and concluding part of the final year graduation project that requires students to complete a design project from concept through to a working prototype. Public oral presentation and submission of a final written report of the design project are essential requirements for the completion of this course.					
5. Pre-requirements for this course (if any)**:**					
EE1491					
6. Co-requisites for this course (if any)**:**					
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7. Course Main Objective(s):					
This course enables students to experience a real-life engineering problem solving, Electrical design, team work, project management... The Graduation Project provides an opportunity for students to apply concepts, rules, methods and techniques learned in their undergraduate education toward a realistic Electrical engineering project. The main objectives of the graduation project are: 1. To make the students understand and practice the basic concepts of engineering design for multidisciplinary Electrical engineering project. 2. To expose the students to group learning and teamwork. 3. To improve the oral and written communication skills 4. To make students capable of integrated project planning, scheduling, and cost analysis for Electrical engineering project.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	-	-
2	E-learning	-	-

No	Mode of Instruction	Contact Hours	Percentage
3	Hybrid • Traditional classroom • E-learning	60	100%
4	Distance learning	-	-

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	15
2.	**Laboratory/Studio**	5
3.	**Field**	20
4.	**Tutorial**	--
5.	**Others (Home Tasks)**	20
Total		60

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
K1	Identify a problem encounter by the industry/community in the electrical engineering or allied domain and formulate the problem in the form of "Function Analysis"	1	-Reading (books, internet search) -Laboratory practice (conducting experiments and writing reports) -Theoretical lectures on the concept of graduation project	-Oral exams - -Final report and presentation

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
K2	Collect scientific, engineering and market data on a particular problem and use it while working on the capstone project.	7	-Reading (books, internet search) -Laboratory practice (conducting experiments and writing reports) -Theoretical lectures on the concept of graduation project	-Oral exams - -Final report and presentation
2.0	**Skills**			
S1	Apply engineering design philosophy to produce solution for the identified problem in the area of Electrical Engineering	2	-Laboratory practice -Group discussion. - Periodic reports -Visit to companies related to the graduation project.	-Oral exams - -Final report and presentation
S2	Develop and conduct appropriate experimentation to validate the results of the capstone project and use engineering judgement to draw conclusions	6	-Laboratory practice -Group discussion. - Periodic reports -Visit to companies related to the graduation project.	-Oral exams - -Final report and presentation
3.0	**Values, autonomy, and responsibility**			
V3	Perform a team work and synergy with other students and with the advisors and the program coordinator	5	-Laboratory practice -Submission of proposals through brainstorming.	-Oral exams - -Final report and presentation

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
V1	Enhance technical writing and oral presentation skills	3	-Laboratory practice -Submission of proposals through brainstorming.	-Oral exams - -Final report and presentation
V2	Identify engineering standards and realistic constraints for the selected topic	4	-Laboratory practice -Group discussion. - Periodic reports -Visit to companies related to the graduation project.	-Oral exams - -Final report and presentation

C. Course Content

No	List of Topics	Contact Hours
1	Design Methodology, Synthesis, Creativity and Conceptualization	10
2	Design the required system and build the prototype	10
3	Test the performance of the designed system (by simulation or measerement of parametres)	10
4	Refine the designed system by Using of standards and design codes and obtain the final prototype	5
5	Analyse the performance of the system (results and discussions)	5
6	Writing of the final report and preparation of the presentation	15
7	Presentation of the main results and discussions	5
Total		**60**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Supervision and Semester activities	Throughout the Semester	**50%**
2.	Project report	Last week	**15%**

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
3.	Oral presentation and discussions	Last week	35%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	--
Supportive References	--
Electronic Materials	Internet Links, AI search engines
Other Learning Materials	--

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Computer Lab equipped with Computer-aided design (CAD) software
Technology equipment (projector, smart board, software)	**AutoCAD, MatLab, Labview, Proteus**
Other equipment (depending on the nature of the specialty)	Solder iron, breadboards, electrical and electronic components, DMMs, Oscilloscope, Function Generators, sensors

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Examiners Committee	Indirect
Effectiveness of Students assessment	Examiners Committee + Supervisor	Direct + Indirect
Quality of learning resources	Supervisor	Indirect
The extent to which CLOs have been achieved	Dept. Quality Committee	Indirect
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	
REFERENCE NO.	

DATE	