هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

2023
TP-153

Course Specification
(Bachelor)

Course Title:	Graduation Project I
Course Code:	EE1491
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: (8th level, 4th year)					
4. Course general Description:					
The capstone project integrates various components of the curriculum in a comprehensive engineering design experience, Design of a complete project including the establishment of objectives and criteria, formulation of design problem statements, and preparation of engineering designs. The design may involve experimentation, realization and/or computer project. Submission of a written report and oral presentation in front of the exam committee is an essential requirement for completion of the course.					
5. Pre-requirements for this course (if any)**:**					
Completion of 100 Cr					
6. Co-requisites for this course (if any)**:**					
--					
7. Course Main Objective(s):					

The main objectives of the graduation project 1 are:

- Analyze a project statement to identify the real problem and the most relevant needs and realistic constraints.
- Perform literature survey and critique related work and review
- Integrate previous knowledge from mathematics, basic sciences, engineering fundamentals related to the studied problem.
- Define design objectives, design constraints
- Propose possible solutions
- Plan an effective design strategy and a project work plan
- Demonstrate the ability to work independently and as part of a team with colleagues and advisors utilizing good work dynamics.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	-	-
2	E-learning	-	-
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**	15
3.	**Field**	15
4.	**Tutorial**	--
5.	**Others (Home Tasks)**	15
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	-Oral exams - -Final report and presentation

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
			graduation project	
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	5	-Laboratory practice	-Oral exams - -Final report and presentation

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
	advisors and the program coordinator		-Submission of proposals through brainstorming.	
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	Project Management and Scheduling	10
3	Problem Definition	10
4	Use of standards and design codes	5
5	Laws of Land related to Engineers	10
6	Examination, Discussion, corrections and Final Report submission. (after corrections)	15
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%**

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
2.	Project report	Last week	15%
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	