هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

2023
TP-153

Course Specification

(Bachelor)

Course Title:	Design Thinking
Course Code :	GE 5202
Program:	Bachelor in Mechanical Engineering
Department:	Mechanical Engineering
College:	College of Engineering
Institution:	King Khalid University, Abha, Saudi Arabia
Version:	12
Last Revision Date:	30 Dec 2024

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours:(2)					
2L + 0 P = 2					
2. Course type					
A.	☐University	■College	☐Department	☐Track	☐Others
B.	☐Required		Elective■		
3. Level/year at which this course is offered: (14th -15th/5th)					
4. Course general Description:					
This course introduces the active learning: teamwork, team dynamics, team norms and communication, conducting effective meetings and quality assessment. Problem solving procedure: problem definition, generation of solutions, selection methodology, solution implementation, assessment of implementation. Levels of learning and degrees of internalization. Organization of the work and design notebook. Reverse engineering and design projects.					
5. Pre-requirements for this course (if any)**:**					
6. Pre-requirements for this course (if any)**:**					
NIL					
7. Course Main Objective(s):					
Upon completion of this course, it is expected that the students will be able to: **1. Explain steps of design thinking and its tools** **2. Explain quality, costumer, expectations, and process as well as the ability to meet customer expectations.** **3. Develop team norms and use effective team tools.** **4. Explain problem definition techniques and solving strategies, idea generation techniques, analysis strategies, and planning techniques.** **5. Demonstrate the fundamentals of organizing and presenting technical work using modern engineering tools in their written and oral presentation.** **6. Use organization techniques such as checklist, charts etc..**					

2. Teaching mode(mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	30	100
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		
4	Distancelearning		

3. Contact Hours(based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	30
2.	**Laboratory/Studio**	
3.	**Field**	
4.	**Tutorial**	
5.	**Others (specify)**	
Total		30

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**			
1.1	**Identify the design thinking definition and its steps.**	**[KLO2](2)**	Lectures Videos Discussion Self-learning	Midterm Assignment Quizzes Final Exam
1.2	Identify the design thinking priorities	**[KLO2](2)**	Lectures Videos Discussion Self-learning	Midterm Assignment Quizzes Final Exam
2.0	**Skills**			
2.	**Design** prototype.	**[KLO2](2)**	Lectures Videos Discussion Self-learning	Midterm Assignment Quizzes Final Exam
2.2	**Analyze** personality of design thinking leader	**[KLO7](5)**	Lectures Videos Discussion Self-learning	Midterm Quizzes Assignment Final Exam
3.0	**Values, autonomy, and responsibility**			
3.1				
3.2				
...				

C. Course Content

No	List of Topics	Contact Hours

1.	Design Thinking Definition	6
2.	Design Thinking Tools	6
3	Design Thinking Strategic priorities	6
4	Design Thinking Making sense	4
5	Design Thinking and Organizations	8
Total		**30**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Assignments + Quizzes+ Presentations	4, 7, 9, 11	30%
2.	Midterm-1& Midterm-2	6-12	30%
3.	Final Exam	15	40%
	Total		**100%**

*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	• "A practical guide to design"; Moritz Gekeler; Website: www.fes-india.org, 2019. • "Design Thinking: A Guide to Creative Problem Solving for Everyone", Andrew Pressman, First published 2019, ISBN 9781317202844.
Supportive References	• **Den Dekker T. Design thinking. Routledge; 2020 Dec 23.**
Electronic Materials	Lecture Handouts
Other Learning Materials	Lecture notes and videos

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classroom Mode: shti moorssalC 50 til s E-Learning mode Laptop/Desktop, internet connectivity Audio-visual system, mic, headphone
Technology equipment (projector, smart board, software)	Laptop / Computer system Multimedia teaching aids – LCD Projector speakers
Other equipment (depending on the nature of the specialty)	**NIL**

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Indirect through surveys
Effectiveness of Students' assessment	Faculty and Quality Committee	Direct through Rubrics
Quality of learning resources	Students and faculty	Indirect through surveys (Student, faculty)
The extent to which CLOs have been achieved	Faculty and Quality Committee	Direct (through Rubrics)
Other		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	Reviewed by Curriculum Committee Approved by Quality Committee
REFERENCE NO.	
DATE	