GOVERNMENT OF GUJARAT

LUKHDHIRJI ENGINEERING COLLEGE, MORBI

Mechanical Engineering Department

Course Teaching-Learning-Evaluation Strategy

Subject: Design Engineering-IA(3130008) Academic Year:2021-22(ODD) Class: 3rd Semester

Type of course: Project Work

Faculties: J M Pujara

Prerequisite: Optimistic mind-set, Enthusiasm of learning new things, Unlearn yourself.

Course Outcomes (Cos)

CO Nos.	CO statement	Weightage (Marks %)
1.	Understanding of Design Thinking methodology/ need of it in actual practice	25
2.	Observation towards Empathy and make decision according to it	25
3.	Understanding of Canvases, AEIOU, Mind Mapping, Empathy mapping,Ideation Canvas,Product development	25
4.	Design Problem Definition analysis AEIUO	25

Teaching and Examination Scheme:

Teaching Scheme			credits	Examination Marks				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE(E)	PA(M)	ESE(V)	PA(I)	
0	0	2	1	0	0	80	20	100

Course Evaluation Plan

	Direct Assessment				
	Internal Evaluation			External(Uni.) Evaluation	
	Mid Sem Exam (continue evaluation) (Theory)	Assignment/ Quiz	Lab. Work	Practical/ Viva (**IF**)	Uni. Exam (Theory)
Max. Marks			20	80	
Weightage	30%			70%	
CO1			05	20	
CO2			05	20	
CO3			05	20	
CO4			05	20	

Course Content

Sr. No.	Particular	Sub-Head Weightage
1.	UnderstandingofDesign Thinkingmethodology/need ✓Importance and understanding of Design Thinking for innovation, entrepreneurship,societalsolutions with variouslearningtools	15
2.	Observationtowards Empathy ✓Field Activity/observationand outcome ✓MindMapping-Summarization anddata analysis ✓ObservationTechnique(AEIOUFramework)	20
3.	Logbook(Individualcompleted logbook, dulysignedby guide regularly) ContinuousAssessmentCardforInternalEvaluation(Completeanddulysigned by guide regularly)	10
4.	UnderstandingofCanvases/Framework ✓AEIOU, Mind Mapping ✓Empathy mapping ✓Ideation Canvas ✓ProductdevelopmentCanvas	15
5.	Design ProblemDefinition ✓Priorartsearch/Secondaryresearch ✓Diachronic andSynchronicanalysis	10
6.	Report: Compilation ofwork report (process report), Online Certificate generated throughDE Portal, Future action plan, Question and Answer, Communication Skill, Attitude	10
		80

Course articulation matrix correlation

CO No.	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2		1		2				2	2	2	3	2
CO2	1	3	2		2	2	2	2		3	1	1	2	3
CO3	2	2	1	2	2	3	2		2		1	1	2	2
CO4	3	2		2	3	1	1	3		2	2	2	2	1

Justification(s) of correlation between Co and Pos/PSOs

Mapping	Justification(s)
3130008-1 WITH PO1, PO2, PO4, PO6, PO10, PO11, PO12, PSO1, PSO2,	3130008-1 mapped because through 3130008-1students shows ability to under design thinking process.
3130008-2 WITH PO1, PO2, PO3, PO5, PO6, PO7, PO8, PO10, PO11, PO12, PSO1, PSO2,	3130008-2 mapped because 3130008-2 students will able to understand empathy and its application in real practice
3130008-3 WITH PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO9, PO11, PO12, PSO1, PSO2,	3130008-3 mapped because students will undergo about Canvases, AEIOU, Mind Mapping, Empathy mapping,Ideation Canvas,Product development
3130008-4 WITH PO1, PO2, PO4, PO5, PO6, PO7, PO8, PO10, PO11, PO12, PSO1, PSO2,	3130008-4 mapped because will develop ability of students to prepare report and skill to write also final problem definition.

Tagging of Cos with POs, PSOs, Cognitive Level (R-Remember, U-Understand, Ap- Apply, AnAnalyse, E-Evaluate and C-Create), Knowledge Categories (F—Factual, C—Conceptual, P—Procedural and M—Metacognitive).

CO No.	Statement	POs	PSOs	Cognitive Level	Knowledge Categories
CO1	Understanding of Design Thinking methodology/ need of it in actual practice	PO1 PO2 PO4 PO6 PO10 PO11 PO12	PSO1 PSO2	U	C
CO2	Observation towards Empathy and make decision according to it	PO1 PO2 PO3 PO5 PO6 PO7 PO8 PO10	PSO1 PSO2	Ap	C, P

		PO11 PO12			
CO3	Understanding of Canvases, AEIOU, Mind Mapping, Empathy mapping,Ideation Canvas,Product development	PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO9 PO11 PO12	PSO1 PSO2	Ap, An	C, P
CO4	Design Problem Definition analysis AEIUO	PO1 PO2 PO4 PO5 PO6 PO7 PO8 PO10 PO11 PO12	PSO1 PSO2	Ap, An	C, P

Online Links:

1. https://www.youtube.com/watch?v=cYGbaqF89Qk
2. https://www.youtube.com/watch?v=brpBM9xV7n8
3. https://www.youtube.com/watch?v=QZzXUUnGkng
4. https://www.youtube.com/watch?v=EHnLvkDG06M
5. https://designengineeringsheetmaker.in/
6. https://www.youtube.com/watch?v=Q7lVU6Q9H8A&t=54s
7. https://www.youtube.com/watch?v=PbzNMMZe4KU