



Diploma branch in which subject is offered: - Automobile Engineering

Objective: To expose student to industry-standard project practices, through a real-life project work under time and deliverable constraints, applying the knowledge acquired through various courses.

Credits Earned: 1

Course Outcomes:

After learning the course, the students should be able to:

- Understanding Design Thinking
- Apply the knowledge gained through various courses in solving a real-life problem
- Perform structured team work and project management.
- Prepare technical documentation for the project.

Pre-requisite of course: Nil

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE	IA	CSE	Viva	Term work	
0	0	2	01	0	0	0	50	50	100

Contents:

Sr. No.	Topics	Teaching hrs.	Weightage
1	Design Thinking Introduction: Overview, objective and goal of this course, Domain Selection, Team Building Exercise, Design in nature/Bio-mimicry, Design as a System approach, Design as listening tool for mapping users' unmet needs	4	10
2	Observation: What/How/Where to Observe, Ethnographic tools and its usage, What difference it will make if the problem solved - partially or fully, Key pain and pleasure points, Understanding of User Contexts, Analysis of Data - Mind	4	15



	Mapping, Summary of AEIOU activity/inputs, Preparation of Mind Map, Empathy Map.		
3	Problem Definition by secondary research, group work and presentation: Secondary research/Prior art search, Group wise presentation followed by Discussion, Define Problem statement, Verification of problem identified.	2	15
4	Ideation Phase: Preparation of Ideation canvas, Combination of Ideas from Ideation canvas, Design Thinking is a Convergent-Divergent process, Prioritizing and finalizing Idea.	6	15
5	Product Development Phase: Preparation of Product Development Canvas (PDC), Discussion on Product Development Canvas (PDC), Customer/User Revalidation, Refinement.	6	15
6	Proof of Concept and Report: Rough Prototype, Final Report	6	30

Suggested Theory distribution:

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
35%	40%	25%	0	0	0

Instructional Method:

During the semesters, Students will have to write two types of reports.

1. Course-work reports: i.e. reports for communication with your tutor or guide,
2. A summary of work carried out, the readings, calculations, results and answers in numerical or graphical form, and a discussion of the results, answers and conclusions.
3. Effort should be made to identify actual field problems to be given as project work to the students. Project selected should not be too complex which is beyond the comprehension level of the students. The placement of the students for such a practical cum project work should match with the competency profile and interest of students.



The suggested performance criteria are given below:

1. Punctuality and regularity (Log book - mandatory and produced during Term work verification)
2. Initiative in learning/working at site/workshop.
3. Level/proficiency of practical skills acquired.
4. Sense of responsibility.
5. Self-expression/Communication skills.
6. Interpersonal skills.
7. Report writing skills.
8. Viva voce.