Lok Jagruti Kendra University
University with a Difference

Diploma
in
Automobile Engineering

LJ Polytechnic

Course Code: 025010602

Project / Training

Programme / Branch Name			Diploma in Automobile Engineering			
Course Name	Project / Training				**Course Code**	025010602
Course Type	HSSC	BSC	ESC	PCC	OEC	PEC

Legends: HSSC: Humanities and Social Sciences Courses BSC: Basic Science Courses
ESC: Engineering Science Courses PCC: Program Core Courses
OEC: Open Elective Courses PEC: Program Elective Courses

1. Teaching and Evaluation Scheme

Teaching Hours / Week					Evaluation Scheme				
L	**T**	**P**	**Total Teaching Hours**	**Total Credit**	**CA**	**CCE**	**SEE (TH)**	**SEE (PR)**	**Total**
0	0	24	24	12	100	-	-	200	300

Legends: L: Lectures T: Tutorial P: Practical
CA: Continuous Assessment (Attendance + Activity)
CCE: Continuous & Comprehensive Evaluation
SEE (Th): Semester End Evaluation (Theory)
SEE (Pr): Semester End Evaluation (Practical)

2. Prerequisite

- ✓ Automobile Core Subjects

3. Rationale

The aim of this course is to provide students with hands-on experience in the design, development, and implementation of automotive projects. Students will learn practical skills in areas such as automotive design, testing, and maintenance, and will be encouraged to work in groups to complete a final project.

4. Objectives

- ✓ To enable students to apply the theoretical knowledge gained during their Diploma in Automobile Engineering to practical projects.
- ✓ To provide students with practical experience in automotive design, development, and implementation.
- ✓ To enable students to work collaboratively on automotive projects and develop skills in teamwork and communication.
- ✓ To develop skills in problem-solving, critical thinking, and decision-making.
- ✓ To provide students with the opportunity to work with automotive industry professionals and gain exposure to current trends and developments in the field.

5. Contents

1. **Introduction to automotive project management:**
    - Project planning and scheduling
    - Resource allocation and management
    - Risk assessment and management
2. **Automotive design and development:**
    - Design methodology and tools
    - Vehicle dynamics and performance
    - Electrical and electronic systems in automobiles
3. **Automotive testing and evaluation:**
    - Vehicle testing methods and procedures
    - Performance testing and evaluation
    - Reliability testing and evaluation
4. **Automotive maintenance and repair:**
    - Vehicle maintenance and repair
    - Diagnostics and troubleshooting
    - Safety procedures and regulations
5. **Final project:**
    - Students will work in groups to complete a final automotive project of their choice.
    - The project will be assessed based on its design, functionality, and implementation.
    - Students will present their final project to the class and to a panel of automotive industry professionals.

6. Suggested Specification Table for Evaluation Scheme

Unit No.	Unit Name	Distribution of Topics According to Bloom's Taxonomy					
		R %	U %	App %	C %	E %	An %
1.	Introduction to Automotive Project Management	0	0	100	0	0	0
2.	Automotive Design and Development	0	0	100	0	0	0
3.	Automotive testing and evaluation	0	0	100	0	0	0
4.	Automotive maintenance and repair	0	0	100	0	0	0
5.	Final Project	0	0	50	50	0	0

Legends: R: Remembering U: Understanding
App: Applying C: Creating
E: Evaluating An: Analyzing

7. Reference Books

1. Automotive Technology: A Systems Approach by Jack Erjavec and Rob Thompson
2. Modern Automotive Technology by James E. Duffy
3. Automobile Engineering Vol 1 & 2 by Kirpal Singh
4. Automotive Mechanics by William H. Crouse and Donald L. Anglin
5. Automotive Engineering: Powertrain, Chassis System, and Vehicle Body by David Crolla
6. Automotive Electricity and Electronics by James D. Halderman
7. Automotive Engine Performance by James D. Halderman
8. Automotive Engines: Diagnosis, Repair, Rebuilding by Tim Gilles
9. Automotive Brake Systems by James D. Halderman
10. Automotive Suspension and Steering Systems by Don Knowles and Jack Erjavec

8. Open Sources (Website, Video, Movie)

1) https://www.youtube.com/c/TheAutomotives
2) https://theautomobileengineers.blogspot.com/
3) https://www.youtube.com/c/LearnEngineering
4) http://auto.howstuffworks.com/
5) https://nptel.ac.in/course.html
6) https://Ocw.mit.edu/courses