

PYP012: Automotive Course Syllabus

INTRODUCTION:

The primary goal of this course is to educate students on the fundamental working principle of automotive systems and their troubleshooting management.

COURSE DESCRIPTION

Through this course, students will learn and understand the following:

- Demonstrate an understanding of the working principle of petrol and electric vehicle
- Demonstrate an ability to diagnose and troubleshoot the basic car ignition system
- Examine the basics of car safety management and learn the wheel balancing
- Identify various car electrical components malfunction and learn them troubleshoot
- Understand the law of energy conservation

COURSE OBJECTIVES

- To educate the students on the fundamental working principle of automotive systems and their troubleshooting management
- To equip the students with the skills to diagnose the car's basic electrical and mechanical issues by using analytical approaches
- To help the students to develop an understanding of safety protocols in the automotive industry through the medium of technical studies

COURSE CONTENT

No	Topics	List of Topics	Contact hours
1	Introduction to Automotive Systems and Mechanical and Electrical components	1.1 Components of Engine 1.2 Engine Capacity 1.3 Types of the engine 1.4 Types of the battery	1
2	Introduction of Electric Vehicle	2.1 Working principle of electric vehicle 2.2 Environmental and future impact of EV	1
3	Working Principle of Petrol car engine	3.1 Four-stroke cycles 3.2 Fuel System Quizzes, Assessment Test	1
4	Introduction to car's cooling, exhaust, and lubrication system	4.1 How the radiator works 4.2 Component of the exhaust system 4.3 The use of lubricant in the engine	1
5	Introduction to the car's transmission system	5.1 The function of the clutch 5.2 Manual and automatics gears	1
6	Introduction to car's suspension and braking system	6.1 Working principle of Propeller shaft and differential 6.2 Disk and Drum Braking System Quizzes, Assessment Test	1
7	Introduction to the cars ignition system	7.1 The function of the battery, alternator, and ignition coil 7.2 Basic electrical circuits 7.3 Assemble, diagnose, and troubleshoot the cars ignition system	1
8	Project	8.1 Practical Activity, Project Work Presentation	1
Total			8

Schedule of Assessment Tasks for Students

#	Assessment Method	Weekly Due	Assessment Score
1	Attendance	Weekly	5%
2	Quizzes, short Test	Week 3-6	20%
3	Class participation	Every class	25%
4	Project Work, Group Presentation	Week 8	50%

Reference Textbooks and Other Teaching Aids:

Required Material: Lab Manual PYP012, Audio Video Lectures Prepared by Faculty



Grading Policies

Attendance



Quizzes/ Short Tests



Class Participation



Projects/ Assignments



Attendance Policies

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

A student is registered **absent** in a class if he/she joins **after 10 minutes** or **did not attend**.

A student is registered **late** in a class if he/she joins **within 10 minutes** of the **start** of the class time.

A student will be marked **absent** if he/she is late for **3 classes**.

A student will be awarded a **DN grade** if he/she reaches **2 unexcused absences**.

A student will be awarded a **DN grade** if he/she reaches a total of **3 absences** (both excused and unexcused).

Three (3) points will be deducted from the attendance grade for an **unexcused absence**.

A student will get a **full attendance mark** if he/she attended **all classes without late** records.

One (1) point will be deducted for being **late** for **1 class** (the maximum is being late for 2 classes because 3 late is converted to 1 absent).