

<b>Course Title</b>	<b>Course Code</b>	<b>Credit Hours</b>
Automotive Engineering and Technology	AE-483	3-0

**Textbooks:**

- Robert Dean Brown, James R. Daines, and Paul R. Rickert, “Introduction to Automotive Technology “, Holbrook Press
- Devendra Vashist, and Mukthar Ahmad, “Automobile Engineering”, I.K. International Publishing House Pvt. Limited

**Reference Material:**

- Source: <https://www.pec.org.pk/wp-content/uploads/2024/07/MECHANICAL-ENGINEERING.pdf>

**Course Objective:**

This course aims to equip students with a comprehensive understanding of Automotive Engineering principles and vehicle dynamics. Students will gain skills in analyzing and solving vehicle dynamics problems. Additionally, they will learn to apply these concepts to design and develop efficient automotive technologies.

**Course Outline:**

- Definition and Classifications of Automobiles
- Historical Development from Carriages to Vehicles
- Types of Engines Spark and Compression Ignition
- Cylinder Head Assembly and Cylinder Block
- Turbo Chargers Super Chargers and Valves
- Fuel Delivery System Carburetor and EFI
- Fuel Pump Filter Tanks and Piping
- Lubrication System Types of Bearings and Lubricants
- Cooling System Elements Water Pump and Radiators
- Transmission Functions Manual Automatic and CVT
- Drive Train Components Friction Clutches and Shafts
- Steering Systems Classification Rack and Pinion
- Suspension Systems Classification Solid Axle and Independent

- Suspension Components Leaf Springs Coil Springs
- Braking Systems Introduction Mechanical and Hydraulic Brakes
- Tire Types Construction Designation and Wear
- Wheels Steel and Alloy Wheels Balancing
- Body Structure Materials and Safety Parameters