

(A UNIT OF ENGINEER'S HERITAGE TRUST)

**Proposal for Automotive Workshop  
ON  
“Automobile Basics  
+  
SAE Car Fabrication & Design”**



**ABOUT US:**

**Autonext, a unit of Engineers Heritage Trust is a collection of passionate and talented personalities, scientists & researchers, working in a synergistic manner to promote and enhance education and training to employees and employers in Auto industry. We provide strategic & technical consulting service to Automobile industry and its other stakeholders.**

**Our key focus is on developing the skills capacity in the automotive industry. We work with industry bodies, consultancies and enterprises to ensure that the trained workforce development equips automotive businesses with the skills needed for today and for the future.**

**Since its inception, Autonext in mutual collaboration with other reputed institutions, consultancies and organizations has conducted several automobile programs which are designed and developed in such a way, that it can set the benchmark for industry requirement, products, service and safety. Our Training Gurus are the most respected & highly experienced personalities who have a deep understanding of the skill needs of the industry while providing a critical focus on the corporate governance needs of the business.**

**Autonext has also diversified its training modules for the budding engineers who are highly enthusiastic for making their career in Auto industry. We use workshops and training as the medium to reach the larger pool of engineering students. Our competitive advantages are practical based training from the industry experts. We encourage a learning environment where you will interact closely with instructors, in a “hands-on” atmosphere. Thus, providing you with the highest possible quality of instruction.**

### Workshop Details:















This workshop will provide the college students a base to automotive technology. They will learn about each and every driving systems involved in automation and get better understanding and grip on its application.





### Course content:

➤ **TWO DAYS WORKSHOP:**














### Workshop Module:

### First Session:

AUTOMOTIVE WORKSHOP SYLLABUS	
Session	Particulars
1.	<b>Introduction to automobile</b> <ul style="list-style-type: none"> <li> Review of Auto basics</li> <li> Automobile Working Cycle</li> <li> Basic Terms such as HP, Torque, Sp Fuel consumption, Gradiability, Wheel bases, Turning radius, Tracks, Road reactions, Vehicle stability etc</li> </ul>
2.	<b>Introduction to Passenger Cars</b> <ul style="list-style-type: none"> <li> Tata Passenger Car Types</li> <li> Latest Car Models of competitors</li> </ul>
3.	<b>Modern Car engines</b> <ul style="list-style-type: none"> <li> Multipoint Injection Petrol engine</li> <li> Common Rail Direct Injection Diesel engine</li> </ul>
4.	<b>Modern Diesel Engines</b> <ul style="list-style-type: none"> <li> FIP</li> <li> ECU</li> <li> Common rail injection Systems</li> </ul>
5.	<b>Clutch</b>
6.	<b>Transmission</b>
7.	<b>Differential working /Functioning</b>
8.	<b>Suspension</b> <ul style="list-style-type: none"> <li> Independent suspension</li> <li> Antiroll bars</li> <li> Torsion bars</li> <li> Stabilizers</li> </ul>
9.	<b>Braking system</b>

-  Vacuum Brakes
-  ABS
-  EBD
-  ESP/ECSs

**Second Session:**

Sl. No.	SAE FABRICATION & DESIGN
	<b>Particulars</b>
<b>1.</b>	<b>Introduction to FSAE &amp; SAE BAJA</b>
<b>2.</b>	<b>Basic concepts in SAE Car development</b>
<b>3.</b>	<b>Chassis Development</b> <ul style="list-style-type: none"> <li> Truss structure design</li> <li> Tubular space frame design</li> <li> Mounting process</li> <li> Clamp designing</li> <li> Aerodynamics</li> </ul>
<b>4.</b>	<b>Power train</b> <ul style="list-style-type: none"> <li> Introduction</li> <li> Restrictor</li> <li> Intact Manifold</li> <li> Torsional vibration</li> <li> Engine ECU tuning</li> </ul>
<b>5</b>	<b>Design of Clutches</b>
<b>6</b>	<b>Suspension System</b> <ul style="list-style-type: none"> <li> Suspension Geometry</li> <li> Ergonomics</li> <li> Rocker Geometry</li> <li> Steering and Driving</li> </ul>
<b>7</b>	<b>Knuckle</b>
<b>8</b>	<b>Fabrication Technique</b>
<b>9</b>	<b>Material Selection</b>

**Workshop fees:- Rs 1000 per Individual**

## Requirements for Workshop:

- Minimum 70 students for conducting the workshop.
- A Seminar Hall with sitting capacity of the participant.
- A Projector & an effective collar microphone along with a Sound System.

## BENEFITS OF WORKSHOP:

- A certificate of participation to trainees for the workshop on “Automobile Basics & SAE Car Fabrication & Design” duly signed by AUTO-NEXT & TATA Motors authorized consultant.
- Certificate of Appreciation for the Host Institute from AUTONEXT.
- Workshop conducted by highly trained and authorized TATA MOTORS Training Consultants.
- All the training materials like slides, videos etc. will be of the authorized TATA MOTORS training consultant.
- The course providing insight into the structure and function of each component; vehicle integration; and related terms and working.
- Knowledge about appropriate use of sensors, actuators and mechanisms in mechatronics applications.
- An approach to new technologies & technical advancement in modern cars will be taught.
- Helpful in training/internships/placements.
- STUDY KIT will be provided to every participant.

**FOR ANY OTHER DETAILS FEEL FREE TO CONTACT US.**



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