

CERTIFICATE PROGRAM

AUTOMOTIVE PRODUCT DESIGN INTERIOR & EXTERIOR TRIMS

PROGRAM OBJECTIVE

Product Domain Knowledge of Vehicle Plastic Product Design Methodology, Aspects and Principles those influence from concept design to launch for manufacturing of Bumper or Instrument Panel of a Car.

PREREQUISITIVE

Mechanical / Production or Automotive Engineering Graduate
S6 / S7 / S8 Mechanical Students
Basic working knowledge on any CAD & FEA Software Tool.

FEA LAB SESSIONS

Recorded Lab Sessions are provided based on learning methodology of Ansys FEA tool to **analyze & support the Plastic Product Design for functional performances.**

LEARNING OUTCOME

Design Principles, Rules and Methodology that involved to design an Interior or Exterior Plastic Product considering customer specification, Raw Materials, Mfg. feasibility, Law and Regulations & Functional Requirements.

PROJECT LEARNING

During the Program, apart from classes, assignments are provided on how to design Trims plastic products using CAD software and analyze the product design performance, and specifications using the FEA software tool.

PROGRAM MODULE

100% online interactive session
Collaborative Skill-set gain with CAD & FEA practices.
Courses are in-line to actual Automotive Tier-1 /OEM Work Methodology.
Recorded lecture are provided for reference.

TRAINER PROFILE

M.Tech Automotive Engineering - BITS Pilani WILP.

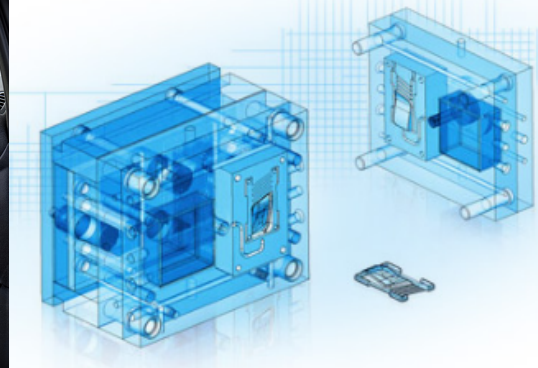
25 Years experienced professional in Automotive Industry & Technical Trainer.

Injection Tooling, CAD/CAM, Automotive Product Design, Engineering, Design, Development and Validation.

CREDENTIAL

Recognition with **Certificate of Completion** will be facilitated at the end of the program. **Certificate of Internship Completion** are provided after successful completion of Internship Live Project.





INTRODUCTION TO AUTOMOTIVE DESIGN

MODULE-1

1 WEEK SESSION

CONTENT:

- Introduction to Automotive
- Trims Design Elements
- Concept Design Sketch
- Vehicle Mfg. Process
- Class A Surface Development
- Basics Design Thinking

PLASTIC PRODUCT DESIGN

MODULE-2

1 WEEK SESSION

CONTENT:

- Product Design Introduction
- Product Design Methodology
- Product Design Best Practices
- Product Engineering Concepts
- Locator & Assembly Methods

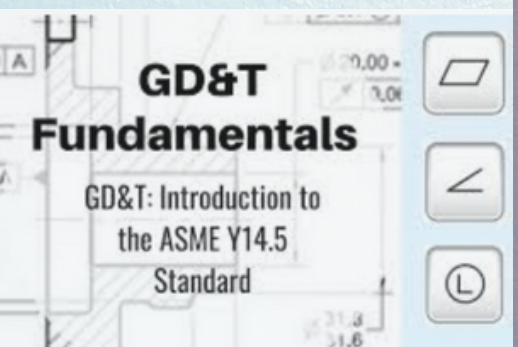
TOOL DESIGN & CHECKING GAUGE

MODULE-3

4 DAYS SESSION

CONTENT:

- Tool Design Concept
- Tool Mfg. Process
- Tool Steel Selection Method
- Checking Gauge Concept
- Gauge Mfg. Methods
- Product Inspection Method



GD&T, DFM, DFA

MODULE-4

4 DAYS SESSION

CONTENT:

- GD&T Concepts
- GD&T on Product Design
- Tolerance Stack-up Analysis
- Product Qualification
- DFA & DFM Concepts
- DFMA influence on Product

AUTOMOTIVE MATERIALS

MODULE-5

2 DAYS SESSION

CONTENT:

- Automotive Polymers
- Raw Material Selection Method
- Raw Material Validation
- Vehicle Lightweighting
- Future Material trends on EV

AUTOMOTIVE REGULATIONS

MODULE-6

3 DAYS SESSION

CONTENT:

- Basics Automotive Regulation
- Vehicle Test Regulations
- EuroNCAP, Consumer Tests
- Automotive Barriers
- EV Crash & Safety Aspects

Duration: 4 Weeks / Daily 1.5 Hours Online & Classroom Interactive Training + Project/Internship
Project: Post completion of the course, an project on **Body Trims Product Design** or **Structural Design in Composites** or **Pedestrian Safety Module Design** will be provided to gain Domain Expertise & Skill-set.