

CERTIFICATE PROGRAM

AUTOMOTIVE REGULATIONS ON TRIMS PRODUCT DESIGN

PROGRAM OBJECTIVE

Automotive Regulation Impact on Vehicle Interior & Exterior Trims Plastic Product Design. Solve the Regulatory Non-conformity of Product Design. Regulatory aspects those influence from Initial Concept to Final Design validation for Bumpers & Cockpit Systems.

LEARNING OUTCOME

Regulation Standards, Vehicle Test methods, Federal Safety Standards for Vehicle Interior & Exterior Modules. The aspects those influenced to meet Product Design for Regulation

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, 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.

PREREQUISITIVE

Mechanical / Production or Automotive Engineering Graduate

<2 Year Experienced Professional

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.**

PROJECT LEARNING

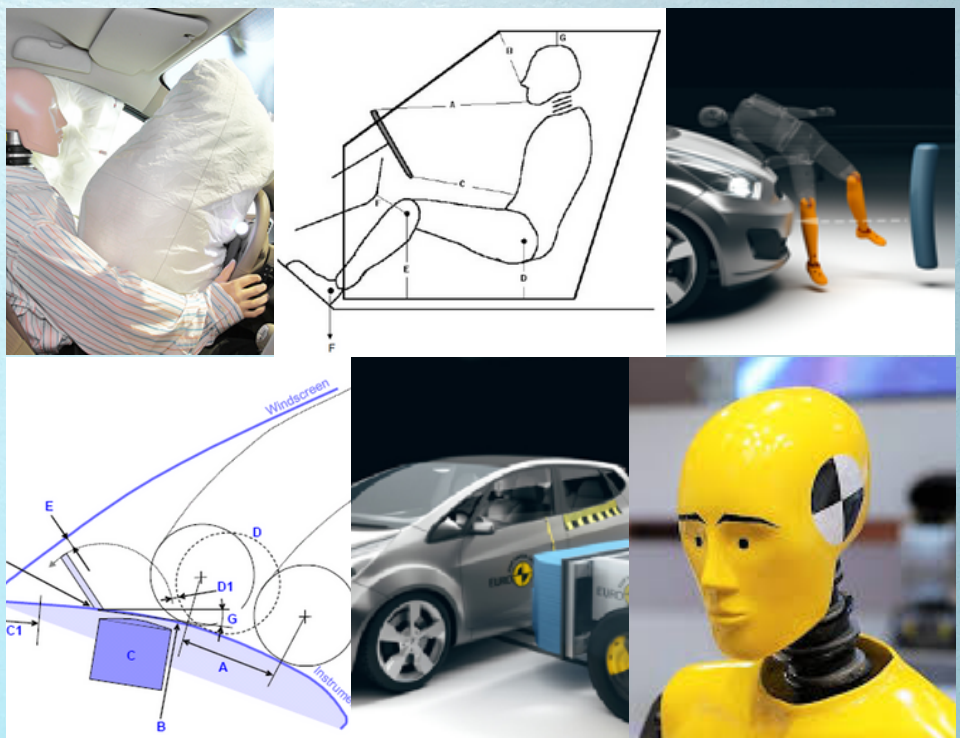
During the Program, apart from classes, assignment are provided on how to design a product to meet regulation norms by using CAD & FEA software tool and analyse the product design performance, durability & Safety.

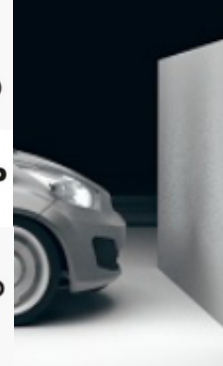
PROGRAM MODULE

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.





INTRODUCTION TO AUTOMOTIVE DESIGN

CRASH & SAFETY REGULATION

AUTOMOTIVE CONSUMER TESTS

MODULE-1

4 DAYS SESSION

CONTENT:

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

MODULE-2

4 DAYS SESSION

CONTENT:

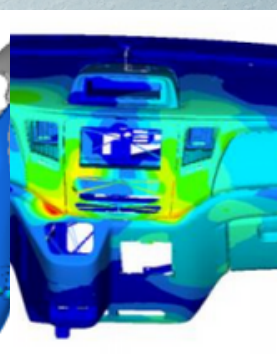
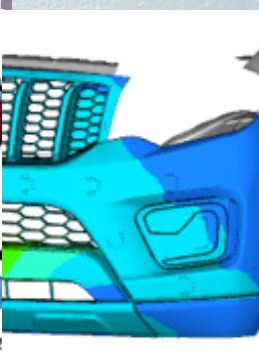
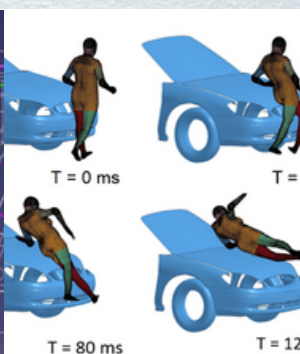
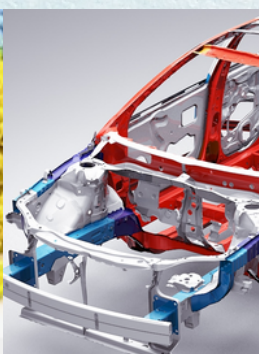
- Vehicle Frontal Impact
- Vehicle Lateral & Pole
- Vehicle Rear Impact
- Pedestrian Protection Impact
- EV Lithium-Ion Battery Safety

MODULE-3

2 DAYS SESSION

CONTENT:

- Vehicle Consumer Test- Intro
- EuroNCAP, GlobalNCAP
- Adult Occupant Protection
- Child Occupant Protection
- Vehicle Test Barriers



AUTOMOTIVE MATERIALS

TRIMS PRODUCT DESIGN FOR REGULATION

FEA ANALYSIS METHODS

MODULE-4

3 DAYS SESSION

CONTENT:

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

MODULE-6

1 WEEK SESSION

CONTENT:

- Plastic Product Design
- Product Design Methodology
- Product Design Best Practises
- Regulation Analysis for Car Interior & Exterior Design
- DFMEA Workshop

MODULE-6

2 DAYS SESSION

CONTENT:

- FEA Recorded Session
- Virtual Design Validation Plan
- Natural Vibration Analysis
- Structural & Thermal Analysis
- Fatigue Life Analysis

Duration: 4 Weeks / Daily 1.5 Hours Online & Classroom Interactive Training + Project / Internship

Project: Post completion of the course, an project on **Interior or Exterior Module Design** for **Vehicle Safety Regulations norms** will be provided to gain Domain Expertise and Skill-set.