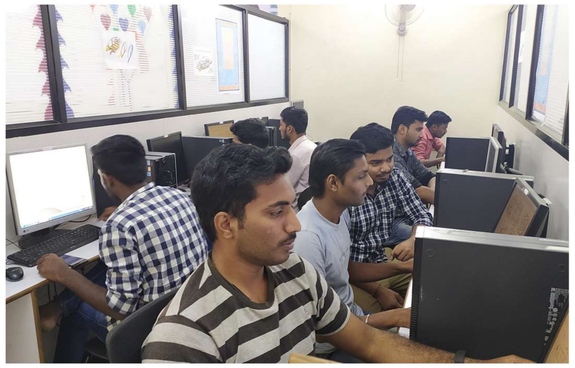
Overview

Our mission is to provide our clients with specialized business Solutions for their Engineering needs and become a trusted partner in strategy implementation.

Company: EXPERT DESIGN SCHOOL is an ISO 9001-2008 Company was founded by industry professionals with over 15 years of collective experience in the designing and executing strategies within the Engineering domain.

Focus: We will build strong and sustainable relationship with our customer and external partners. We will use innovative methods thoughtfully and effectively to deliver quality services to our customers.

Vision: Providing industries specialized business solutions and partnering the implementation process.



Contact Us

EXPERT DESIGN SCHOOL
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EXPERT DESIGN SCHOOL

Professional Training Programs

CAD | CAM | CAE

www.expertdesignschool.com

Design FOR Product Innovation

This course will help candidate develop an approach of a Design Engineer. It introduces basic concepts as well as cutting edge developments in the world of Computer-Aided Design (CAD) from developing a concept to designing a three dimensional surface or volume. This course also highlights product design processes for Plastic, Sheet metal and Casting component as well as system level design

Vehicle Integration:

- Automobile Basic Design Process
- Concept of Vehicle Design and Development
- Various aggregates & their responsibilities
- Anatomy of Vehicle and its Importance
- Packaging Considerations
- Study of surrounding parts
- Serviceability of Parts
- Ergonomic study of parts

Major Systems in Automobile:

- Engine
- Transmission System
- Intake System
- Exhaust System
- Suspension system
- Fuel system
- Steering system
- Control system
- Cooling system
- HVAC System
- Chassis Frame

Casting Product Design:

- Types of Casting Processes
- Application of Casting parts
- Design Considerations in Casting
- Types of Allowances
- Defects in Casting
- Material selection
- Die cast tool design concept

Sheet Metal Product Design:

- Application of Sheet metal parts
- Types of Sheet metal Processes
- Design Considerations in Sheet metal part Design
- Material selection of sheet metal parts
- Press tool design concept

Plastic Product Design:

- Application of Plastic parts
- Types of molding Processes
- Design Considerations in Plastic part Design
- Assembly processes
- Plastic feature Design
- Material selection for plastic parts
- Moulding tool design concept

Product Design steps:

- Design for Manufacturing, Assembly, Function & Serviceability.
- Design for Failure Mode Effect Analysis (DFMEA)
- Design consideration for Plastic, Sheet metal & Casting products
- Remastering and Reverse Engineering
- Benchmarking Study
- Value Analysis & Value Engineering (VA/VE)

Electrical Design/ EV Design:

- Introduction to Electrical/ Electronic systems
- Fundamental and conceptual learning on EV Technology
- Learning on EV Architecture, Powersource combinations
- Learning about Electric drives & Integration of Powertrain to the chassis
- Wiring Harness routing
- Cable, fuse, Terminal & connector selection
- Load calculation

Engineering Drawing & GD&T

- Training on Orthographic and Isometric Projection views
- Preparation of drawing as per standards i.e. ISO/ANSI
- Fundamentals and Applications of GD&T

Solid Mechanics

- Forces & Moments, Free Body Diagram (FBD), Moment of Inertia (MI), Equation of Statics, Multiple Load Calculation
- Mechanical Behavior (Elasticity, Plasticity, Stability and Failure)
- Stresses and Strains, SFD & BMD, Theories of Failure

CAD Technology

- Solid Modeling, Surface Modeling, Sheet metal Modeling
- Top Down and Bottom Up Assembly approach
- Preparation of Bill of Material (BOM)
- Drafting of component, GD&T application
- Productivity Tools: Family Tables, Relations/Formula & Customized User Interface
- Modeling strategies for Plastic, Sheet metal & Casting Components
- Data Exchange types, Working with non-parametric file data, Data Clean up
- Create Rendered Images for presentation and Animations for Presentations
- Product life cycle concept (PLM/PDM)

Solid Mechanics

- Soft skill learning on PPT, XLSheet & Word file
- Creative Problem Solving technique
- Written & Verbal Communication in English
- Presentation & Time Management skills
- Interpersonal Skills
- Leadership skill development
- CV Preparation

EXPERT DESIGN SCHOOL

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Simulate FOR Product Realization

Students Speak

This course will help the candidate develop an approach of a Simulation Engineer. It introduces basic concepts of Finite Element Analysis as well as world class CAE tools. This course also clarifies your solid mechanics concepts and hands on practice on industrial projects on leading CAE tools.

Solid Mechanics

- Forces & Moments, Free Body Diagram (FBD), Moment Of Inertia (MI), Equation of Statics, Multiple Load Cases
- Mechanical Behavior (Elasticity, Plasticity, Stability and Failure)
- Stresses and Strains, SFD & BMD, Theories of Failure

Finite Element Analysis

- Basics of Differential, Integration and Matrices
- Discretization & Approximation
- Linear and Quadratic Shape function
- Stiffness Matrix Formulation Methods
- Beam, Plane and Shell Element Theories
- Solution Methods for Linear and Non linear Analysis

CAE Technology: Pre Processor

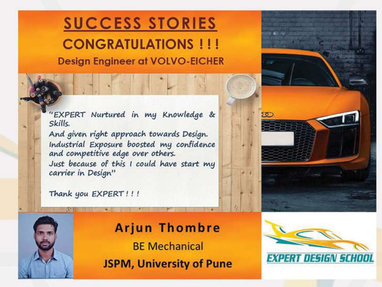
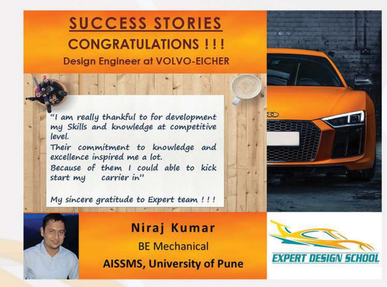
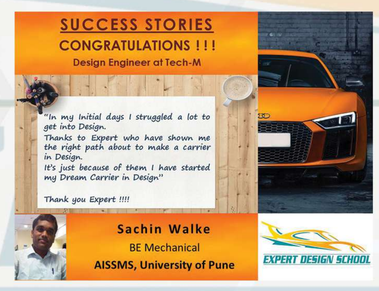
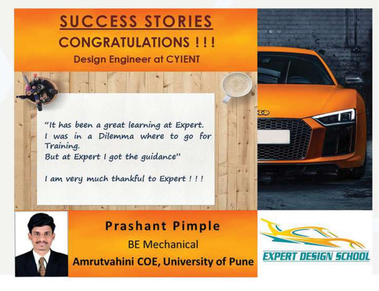
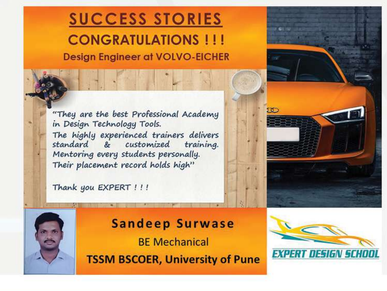
- Geometry Preparation: Geometry Clean up & Mid surface extraction
- Meshing Techniques: Auto, Manual and Batch Meshing
- Mesh Types: 1D (Beam & Rod), 2D (Shell) and 3D (Tetra and Hexa)Mesh
- Quality Check & Improvement Techniques
- Meshing of Sheet Metal and Plastic Components,
- Casting and Forging Components
- Set up of Boundary conditions & Loads
- Solver Deck Preparation
- Connectors and Model Assembly

CAE Technology: Solver

- Element types, Material properties, Section Properties
- Static Structural and Thermal Analysis
- Dynamic (Vibration) Analysis: Modal, Transient, Harmonic & Random Vibrations
- Non Linear Analysis: Material Non Linear, Large Displacement & Contact
- Assembly Analysis

CAE Technology: Post Processing

- Animation and Contour of Deformation, Strains and Stresses
- Graph Plotting
- Verification and Validation of Results

Soft Skill

- Creative Problem Solving
- Written & Verbal Communication in English
- Presentation & Time Management
- Interpersonal Skills
- Resume Writing