HRDF
-MALAYSIA-

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1 MALAYSIA GRIP

PROFESSIONAL CERTIFICATION COURSE

Under Human Resources Development Fund

Certified by

NAFEMS
THE INTERNATIONAL ASSOCIATION FOR THE ENGINEERING ANALYSIS COMMUNITY

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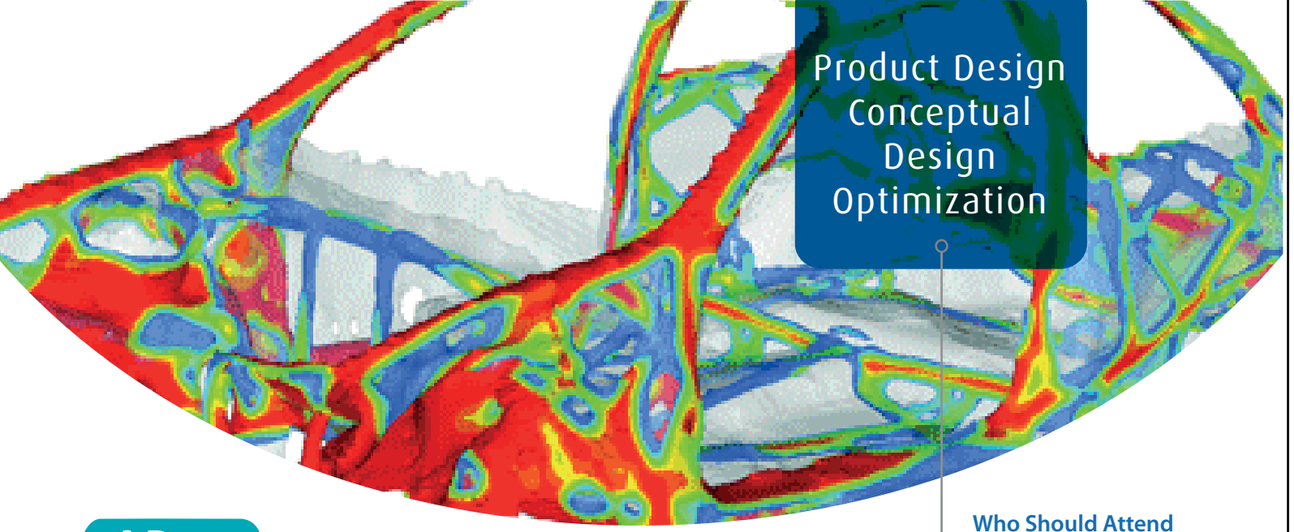
Worldwide Corporate Resources Sdn Bhd 685519m No. 31-1, Jalan 45A/26, Taman Seri Rampai, 53300 Setapak, Kuala Lumpur
Tel : 603 41420960 / 603 4141 6378 **Fax** : 60327883605
Mobile: 016- 665 6138/ 016-242 0864 / 012- 5017987/ 019-777 2001 / 012-942 5366
training@globaleventasia.com www.globaleventasia.com



Product Design Conceptual Design Optimization

4 Days

Course available :

Product Design:Conceptual Design Optimization

Course Content:

Day 1
Efficient Concept Generation for Product Design.
- Important Tools and Elements for Product Design.

Day 2
Tool Familiarization
- Function, Aesthetic (Styling) and Specifications (GD&T).
- Geometry Modelling and Editing

Day 3
3D Modelling and Rendering Overview
- Material and Model Library
- Real Time and Interactive Rendering
- Finalize Result

Day 4
Conceptual Product Design Validation.
- Investigate Structurally Efficient Concept Generation
- Conceptual Product Design Optimization.
- Generating Lightweight Design Concepts
- Output Results for Finite Element Analysis (FEA).

Activities:
Interactive Video Session.
Industrial Case Study.
Individual Exercise (Practical Exercise).
Group Case Study (Presentation).

Who Should Attend The Training

- Product Designer
- Engineering Designer (CAD/ CAE)
- Engineer
- Junior Engineer
- Senior Technician

Objectives

To impart simulation driven design approach in product design according to industrial requirements.

To provide industrial driven knowledge with analytical thinking and skill in design evaluation and design improvement using innovative CAD/CAE technology.

To enhance creativity and allow designers to develop forms faster. To understand feasibility as well as technical limits or constraints that come from the customer

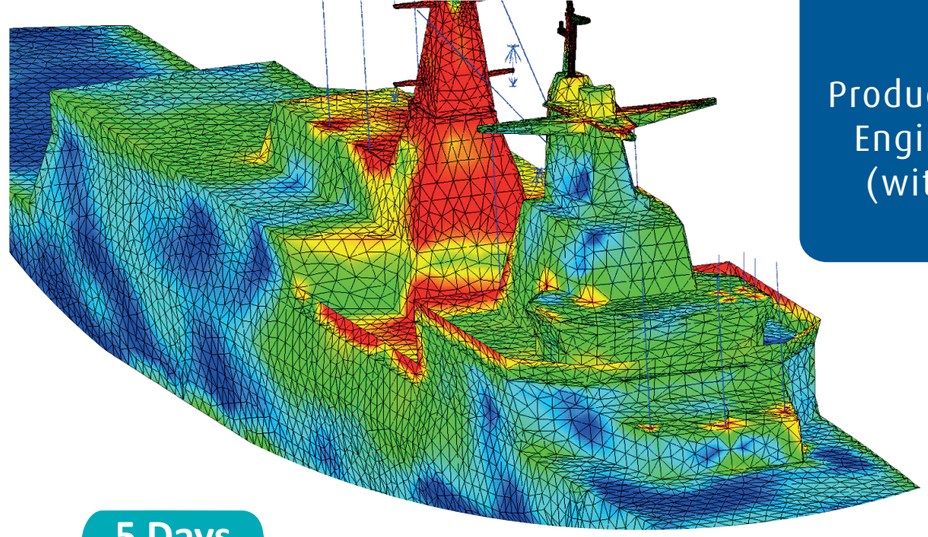
Outcomes

Participants will able to demonstrate industrial and technology driven method and approach on conceptual design and engineering design for industrial products.

It enables design engineers, product designers to create and investigate structurally efficient concepts quickly and easily

Releases designers from the constraints of engineering oriented CAD tools, while allowing the export of digital models required by others in the product development process.

Assessment and Examination by NAFEMS



Product Design Engineering (with CAE)

5 Days

Course available :

Product Design Engineering(with CAE)

Course Content:

Day 1
Industrial Applications of Engineering Design Analysis Thru Simulation Technology

Day 2
Relationship of Product Design In Virtual Testing
- Introduction to Finite Element Method / Analysis (FEM/ FEA)
- Internalization Process of CAE
- Transplanting and Relating Actual Physic Problems Into Virtual Testing

Day 3
Procedures and Input Parameters for Finite Element Meshing (FEM).
- Finite Element (FE) Modelling Techniques
- 1D, 2D, 3D Element Meshing
- Joints & Connection Modelling
- Finite Element (FE) Morphing

Day 4
Procedures and Input Parameters for Engineering Structural Analysis.
- Scope of Analysis Domain Capturing
- CAE Diagnostic / Investigation Analysis
- Linear Static and Dynamic Analysis
  Steps and Procedures for Result Interpretation and Reporting

Day 5
Techniques and Application of Design Improvement Using Optimization Techniques
- Topology Optimization for Weight Reduction and Strength Performance

Activities:
Interactive Video Session.
Industrial Case Study.
Individual Exercise (Practical Exercise).
Group Case Study (Presentation).

Who Should Attend The Training

- Product Designer
- Engineering Designer (CAD/ CAE)
- Engineer
- Junior Engineer
- Senior Technician

Objectives

To impart simulation driven design approach i engineering design and analysis according to industrial requirements and global trend

To provide industrial driven knowledge with analytical thinking and skill in design evaluation and design improvement using innovative CAD/CAE technology.

To provide solutions for local industries to increase capability and capacity in Engineering Design Analysis.

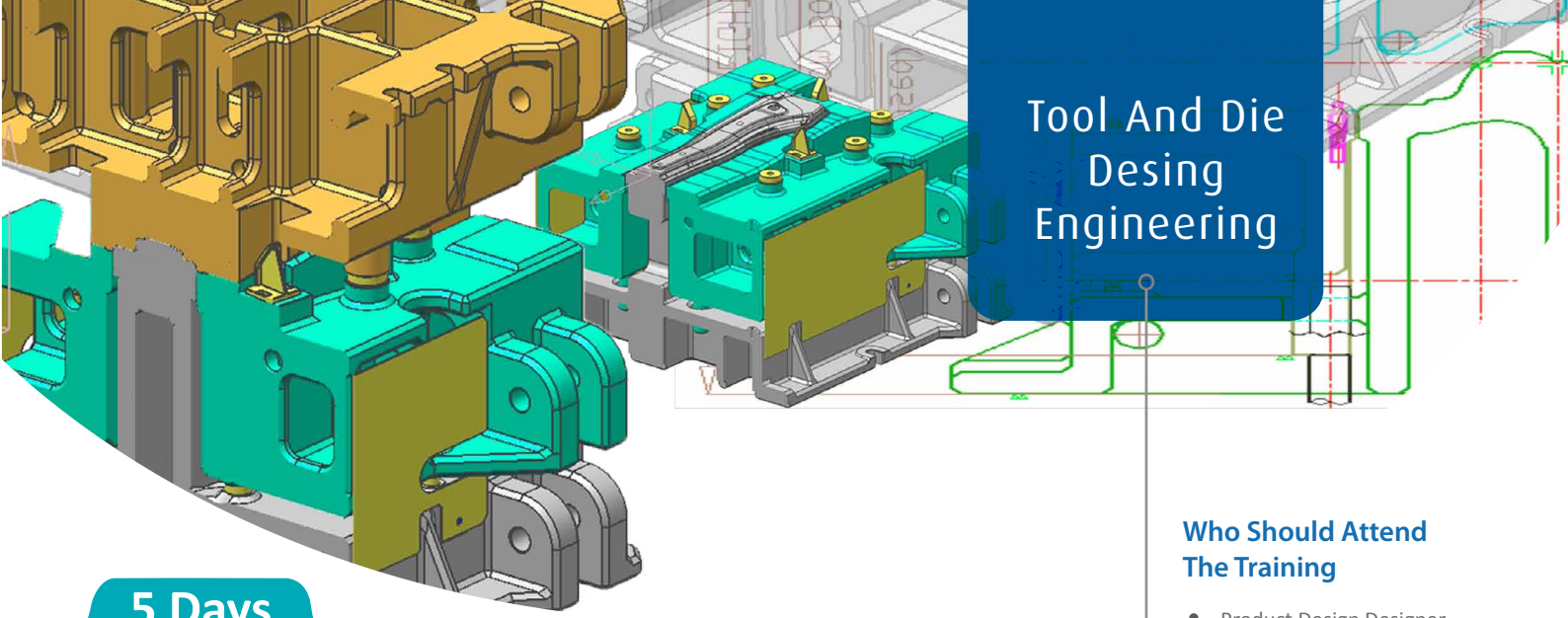
Outcomes

Participants will able to demonstrate industrial and technology driven method and approach on conceptual design and engineering design for industrial products.

Enhance participants skill, knowledge and technology in virtual engineering simulation for industrial products.

Empowering a niche skill set in engineering problem solving methods

Assessment and Examination by NAFEMS



Tool And Die Desing Engineering

5 Days

Course available :

Tool & Die Design Engineering

Course Content:

Day 1

- Applications and Purpose of Stamping Simulation and Analysis.
- Sheet Metal Material Properties and Defects of Sheet Metal Stamped Products.
- Common Guidelines and Procedures for Stamping Simulation.
- Guidelines and Procedures for Stamping Simulation Report.

Day 2

- Part Quality Check and Meshing Part Geometry.
- Procedure for 1 Step Stamping Simulation.
- Tool, Blank and Process Setup for 1 Step Stamping Simulation.
- Blank Size Estimation with 1 Step Stamping Simulation.
- Results from 1 Step Stamping Simulation (Thinning, Thickness and Formability)

Day 3

- Part Quality Check and Meshing Part Geometry.
- Procedure for Incremental 1 Step Stamping Simulation.
- Tool, Blank and Process Setup for Incremental Stamping Simulation.
- Blank Size Estimation with Incremental Stamping Simulation.
- Results from Incremental Stamping Simulation (Thinning, Thickness and Formability).

Day 4

- Procedure for Springback Simulation.
- Input Parameters for Springback Simulation.
- Results and Analysis for Springback Simulation.
- Procedure for Springback Compensation.
- Input Parameters for Springback Compensation.
- Results and Analysis for Springback Compensation.

Day 5

- Optimization Method for Stamping Simulation.
- Tool, Process and Blank Size Optimization.

Activities:

Interactive Video Session.
Industrial Case Study.
Individual Exercise (Practical Exercise).
Group Case Study (Presentation).

Who Should Attend The Training

- Product Design Designer
- Engineer Designer (CAD/ CAE)
- Junior Engineer
- Senior Technician
- Process Planner
- Die Maker

Objectives

To imparts simulation driven design approach in sheet metal stamping simulation and analysis according to industrial requirements.

To provides industrial driven knowledge with analytical thinking and skill in design evaluation and design improvement using innovative CAD/CAE technology.

To provides solutions for local industries to increase capability and capacity in Simultaneous Engineering (SE).

Outcomes

Participants will able to demonstrate industrial driven method and approach on stamping simulation analysis for sheet metal stamped products.

Enhance participants skill, knowledge and technology in virtual engineering simulation for sheet metal stamped products.

Assessment and Examination by NAFEMS