



# BMS INSTITUTE OF TECHNOLOGY & MANAGEMENT

BENGALURU 560 064

## DEPARTMENT OF MECHANICAL ENGINEERING

<b>Open Course Title</b>	: Training Course on “Hypermesh”
<b>Co-ordinator Name</b>	: Mr. Kiran M D
<b>Target Students from Branches</b>	: Mechanical Engineering
<b>Total duration of the course</b>	: 25 Hours.
<b>No. of Lecture hours</b>	: 10 Hrs
<b>No. of hands on / Practical</b>	: 15 Hrs

### Abstract

The Open course entitled training course on “Hypermesh” will help the students to gain real hands on practical experience in the field of Computer Aided Design and Engineering. Hypermesh training course enables the students to work on Hypermesh software, a Computer Aided Engineering (CAE) simulations software platform. The training enables the students to create finite element models for analysis and prepare high-quality meshes in an efficient manner. This course offers the skills needed to work with geometry editing tools for preparing CAD models for the meshing process. During the Hypermesh training, the attendees will have knowledge about the Batch Meshing technique that facilitates users to mesh several files in the background to match the standards set by users.

The team of expert CAD & CAE engineers from iCAE TECHNOLOGIES, Bengaluru will be assisted in the hands-on practice sessions. This program will help to gain invaluable experience to mechanical engineering students and there is a wide opportunity in the industry in coming years. This program contains the introduction and applications of FEM/FEA, CAE in industries, Meshing techniques using hypermesh, Static and dynamic analysis of meshed component using Abaqus. HyperMesh is used by thousands of customers worldwide to generate and manage their models, it supports a wide variety of CAD and solver interfaces, making it a perfect solution for a majority of verticals and domains.

### Open Course Details

**CO1:** Able to **Understand** the applications of Computer Aided Engineering (CAE)

**CO2:** Able to **Understand** the Modelling and Meshing techniques for different structures.

**CO3:** Able to **Solve** the problems using static and dynamic analysis.

### Schedule

Day 1: 12/02/2019, Tuesday			
Time	Topics	Resource Person Details	CO-PO Mapping
9.30 AM to 1.00 PM	Introduction to FEA/FEM	Kiran M D Assistant Professor BMSIT&M	CO- 1 PO- 1. 2. 3
1.00 PM to 2.00 PM	LUNCH BREAK		
2.00 PM to 4.30 PM	Introduction to Hypermesh Modelling techniques and its types (0D, 1D, 2D & 3D)	SUHAIL PASHA CAE ANALYST, ICAE TECHNOLOGIES (R)	CO- 2 PO- 1. 2. 3, 5, 9, 10, 12
Day 2: 13/02/2019, Wednesday			
Time	Topics	Resource Person Details	CO-PO Mapping
9.30 AM to 1.00 PM	Importance of Meshing & Quality criteria (Warpage, Jacobian, Skew & Angles)	SUHAIL PASHA CAE ANALYST, ICAE TECHNOLOGIES (R)	CO- 2 PO- 1. 2. 3, 5, 9, 10, 12
1.00 PM to 2.00 PM	LUNCH BREAK		
2.00 PM to 4.30 PM	Problem Solving (Static analysis of Plate with Numerical comparison)	SUHAIL PASHA CAE ANALYST, ICAE TECHNOLOGIES (R)	CO- 3 PO- 1. 2. 3, 5, 9, 10, 12
Day 3: 14/02/2019, Thursday			
Time	Topics	Resource Person Details	CO-PO Mapping
9.30 AM to 1.00 PM	Nonlinearity Geometric and Materials (Problem solving)	Kiran M D Assistant Professor BMSIT&M	CO- 3 PO- 1. 2. 3, 5, 9, 10, 12

1.00 PM to 2.00 PM	LUNCH BREAK		
2.00 PM to 4.30 PM	Contact Nonlinearity (Problem solving)	Kiran M D Assistant Professor BMSIT&M	CO- 3 PO- 1. 2. 3, 5, 9, 10, 12
<b>Day 4:15/02/2019, Friday</b>			
<b>Time</b>	<b>Topics</b>	<b>Resource Person Details</b>	<b>CO-PO Mapping</b>
9.30 AM to 1.00 PM	Dynamic analysis Why Modal analysis?	Kiran M D Assistant Professor BMSIT&M	CO- 3 PO- 1. 2. 3, 5, 9, 10, 12
1.00 PM to 2.00 PM	LUNCH BREAK		
2.00 PM to 4.30 PM	Modal analysis of Door assembly with and without connections	SUHAIL PASHA CAE ANALYST, ICAE TECHNOLOGIES (R)	CO- 3 PO- 1. 2. 3, 5, 9, 10, 12
<b>Day 5 :16/02/2019, Saturday</b>			
<b>Time</b>	<b>Topics</b>	<b>Resource Person Details</b>	<b>CO-PO Mapping</b>
9.30 AM to 12.00 PM	Quasi static analysis, what and how solving using Explicit method and why? Problem solving?	SUHAIL PASHA CAE ANALYST, ICAE TECHNOLOGIES (R)	CO- 3 PO- 1. 2. 3, 5, 9, 10, 12
12.00 PM to 12.45 PM	Feedback and Valedictory		