





ANSYS

Training Details

Course Code	: HCCC13
Course Name	: ANSYS
Duration	: 2 Months
Eligibility	: Diploma / BE / ME (MECH) / ITI / +2 / Equivalent

Syllabus:

Introduction Of Ansys :

- ✤ Ansys APDL
- Jobnames and Preferences
- Utility Menu
- Task Steps
- Action Sub Steps
- Picking Graphics

Introduction Of FEA :

Finite Element Analysis

- ✤ Degrees of Freedom
- Boundary Conditions
- ✤ Areas for Application of FEA
- FEA through ANSYS

Element Shapes :

- Point Element _
- Line Element
- Area Element

Address:

163 C/1, First Floor, Kamarajar Salai, NP TVS Showroom Opp., Ganesh Theatre Signal, Santha Pettai Bus Stop Near, Madurai - 625 009.



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- Volume Element



Applicable AnsysProducts :

- Ansys Mechanical
- AnsysMultiphysics
- Ansys Professional
- ✤ Asnys Structural
- Ansys LS-DYNA

Types Of Analysis :

Structural Analysis

Linear

- Static
- Modal
- Transient
- Buckling
- Non Linear
- Thermal Analysis

Steps of Ansys:

- ✤ Preprocessor
 - Element Type
 - Real Constants
 - Material Properties
 - Modeling
 - Meshing
 - Loading and boundary conditions
- Solution
 - Analysis Type
 - Define Loads
 - Solve
- General Postprocessor
 - Read Results
 - Plot Results(Stress, Strain etc...)

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Modeling:

***** Keypoints

- On working plane
- In Active CS
- On Line
- On Line w/Ratio
- KP between KPs
- Fill between KPs
- KP at centre
- ✤ Lines
- Straight Line
- Tangent to Line
- Tan to 2 Lines
- Normal to Line
- Norm to 2 Lines
- At angle to line
- Angle to 2 Lines

* Arcs

- Through 3 KPs _
- By End KPs & Radius
- By Cent & Radius
- Full Circle

* Splines

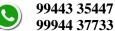
- Spline thru Locs _
- Spline thru KPs
- Segmented Spline
- ✤ Line Fillet
- ✤ Areas> Arbitrary
 - Through KPs _
 - By Lines _
 - By offset

✤ Rectangle

- _ By 2 Corners
- By Centr&Cornr _
- By Dimensions

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Circle *

- Solid Circle _
- Annulus
- Partial Annulus
- By End Points
- By Dimensions

Polygon

- Triangle _
- Square
- Pentagen
- Hexagon _
- Septagon
- Octagon _
- By Inscribed Rad
- By Circumscr Rad _
- By Side Length
- By Vertices

✤ Area Fillet

Volumes > Arbitrary

- Through KPs _
- By Areas _
- Block
 - By 2 corners & Z _
 - By Centr, Cornr, Z _
 - By Dimensions

* Cylinder

- Solid Cylinder _
- Hollow Cylinder
- Partial Cylinder
- By End pts & Z
- By Dimensions _

Prism

- Triangle _
- Square
- Pentagonal
- Hexagonal
- Septagonal
- Octagonal

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- By Inscribed Radius
- By Circumscr Rad
- By Side Length
- By Vertices

* Sphere

- Solid Sphere -
- Hollow Sphere _
- By End Points _
- By Dimensions _
- * Cone
 - By Picking _
 - By Dimensions
- * Torus
- Nodes
 - On Working Plane _
 - In Active CS

✤ Elements

- **Elem Attributes** _
- Auto Numbered

✤ Operate > Extrude > Areas

- Along Normal -
- By XYZ Offset
- About Axis
- Along Lines
- ✤ Lines
 - About Axis _
 - Along Lines _
- * Key points
 - About Axis _
 - Along Lines

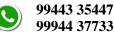
Extend Line

✤ Booleans

- Intersect _
- Add
- Subtract
- Divide
- Partition

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Scale

✤ Move/Modify

- Key points _
- Lines
- Areas
- Volumes
- Nodes

* Copy

- Key points _
- Lines
- Areas
- Volumes
- Nodes
- * Reflect
 - Key points _
 - Lines
 - Areas
 - Volumes
 - Nodes _
- Check Geometry
- ✤ Delete

Plot Ctrls

- Pan Zoom Rotate
- Numbering
- Style _
- Window Controls
- Animate
- Plot
- Replot _
- Multi plots

Work Plane

- **Display Working Plane** _
- WP Settings _
- Offset WP By Increments
- Offset WP to
- Align Wp With _

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Element Type

Add/Edit/Delete _

Real Constants

- Add/Edit/Delete _
- **Thickness Functions**

Material Props

- ✤ Material Library
- ✤ Material Models

Meshing

- Mesh Attributes
- Mesh Tool
- Size Controls
- Clear

Loads

- _ Analysis Type
- Define loads _
- Load Step Opts _

Import and Export



