

ANSYS Course

سطح ۱ (مقدماتی)

طول دوره: ۴۰ ساعت

پیش نیاز: آشنایی با اصول المان محدود

Theory

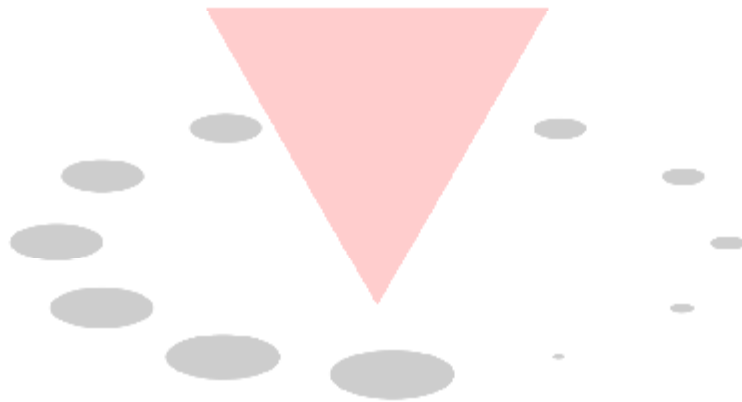
- Introduction to FEM and Fundamentals of Strength of Materials
- Weak Form / Variational Formulation
- Approximate Methods + Matrix Method
- Choice of Trial Functions and Type of Elements
- Finite Element Formulation of 1D Problems
- Finite Element Formulation of 2D & 3D
- Finite Element Formulation of Beams
- Isoparametric Elements

ANSYS® Tool

- Overview of FEA and ANSYS products.
- Introduction to ANSYS GUI
 - Memory management
 - Picking and plotting
 - Coordinate systems
 - Logic picking and component manager
 - General analysis procedure
 - Workshops
- Solid modeling
 - What to model
 - Axisymmetry.
 - Rotational symmetry.
 - Reflective symmetry.

- Translational symmetry.
- Stress singularities.
- Importing solid models from CAD
- Definitions and practice problems.
- Workshops
- Finite Element modeling
 - Overview of different category of elements.
 - Setting Element attributes.
 - Meshing controls.
 - Free mesh, Mapped mesh and Sweep mesh.
 - Element quality check.
 - Workshops
- Material properties, Loading and Solution options.
 - Units and Material model GUI
 - Category of loads
 - Nodal coordinate systems and its significance.
 - Element coordinate system and its significance.
 - Stress concentrations.
 - Solver types and solving Multiple load steps.
- Post processing.
 - Interpretation of FEA results.
 - Path operations, Query picking and Error estimations.
 - Result coordinate systems and Load case combinations.
 - Viewing sectional results and other post processing techniques.
- Linear static structural analysis.
 - Solution of problems using 1D, 2D and Shell elements.
 - Solution of practical problems.
 - Examples and case studies.
- Introduction to Thermal analysis.
 - Overview.

- Steady state conduction problems.
- Steady state conduction – convection problems.
- Transient analysis.
- Examples and Case studies.
- Introduction to Multiphysics.
 - Overview or ANSYS Multiphysics.



ویژن ایتلس ایرسا
(بامسئولیت محدود)

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