



ANSYS Workbench – Simulation Structural Nonlinearities
Training Course Length: 2 Days

Topics to be covered across 2 days:

Nonlinear Structural

Background on Linear Analysis
Nonlinear Analysis Setup
 Workshop 2A– Large Deflection
Solving Nonlinear Models
Reviewing Results
 Workshop 2B – Bolt Pret. w/ Contact

Advanced Contact

Contact
Contact vs Target
Pinball Region
Interface Treatment
Time Step Control
Initial Contact Conditions
Frictional Contact Options
 Workshop 3A – Bolted Joint Assembly

Metal Plasticity

Overview
Yield Criteria
Hardening Rules
Material Data Input
 Workshop 4 – Metal Plasticity

Hyperelasticity

Background on Elastomers
Background on Hyperelasticity
Curve-Fitting
 Workshop 5 – Curve-Fitting

Nonlinear Diagnostics

Solution Information
Monitoring the Solution
Newton-Raphson Residuals
Example Cases
Tips on Solving the Model
 Workshop 6 – General Troubleshooting

Accessing ANSYS Options

Named Selections and ANSYS
Overview of Command Objects
Transferring Models to ANSYS
 Workshop 7 – Accessing ANSYS