ANSYS Mechanical Advanced Nonlinear Materials

@idacltd
+44 (0)844 212 5900
Finite Element Analysis & Computational Fluid Dynamics

WHO IS THE COURSE FOR?

This course includes lectures on advanced nonlinear material options not covered in the Introduction to Structural Nonlinearities course using the Mechanical Interface. It is intended for users already familiar with the procedures for performing a nonlinear static analysis in the Mechanical environment. Each course topic is followed by hands-on workshops and exercises.

A technical education and background is recommended but an engineering degree is not required.

DURATION

- **1 Days**

TOPICS COVERED

- **Main Chapter**
  1. Advanced Metal Plasticity
  2. Viscoplasticity
  3. Creep
  4. Hyperelasticity
  5. Viscoelasticity
  6. Advanced Models
- **Operational Appendicies**
- AA Element Technology
- 1A Chaboche Curve Fitting in MAPDL
- 2A Creep Curve Fitting in MAPDL
- 4A Hyperelasticity Curve Fitting in MAPDL
- 5A Viscoelastic Curve Fitting in MAPDL

COURSE AIMS

- **This is not a material science course. It is assumed that the reader will be adequately familiar with the material behaviour to make good engineering judgments.**
- **Much of the discussion of material behaviour will be brief, general, and simplified in nature. When possible, references for further reading will be presented, and the user is encouraged to refer to these texts for detailed information.**
- **This class will focus on issues pertinent to procedural aspects regarding usage of the material laws in the program.**
- **Material testing should be done by those familiar with these types of procedures.**

RECOMMENDED FOLLOW-ON COURSES

(Dependent upon the student's interests and applications)

- **ANSYS Mechanical Advanced Contact & Fasteners**
- **ANSYS Mechanical Heat Transfer**
- **ANSYS Mechanical Rigid Body Flexible Body Dynamics**