

**NX Nastran 9.0**

**NX Nastran Design Sensitivity and Optimization with NX**

Course Code **NXNAS331**

User Level **Advanced**

Price **\$1,100**

Training Center Duration **2 Days**

The **NX Nastran Sensitivity and Optimization (NX)** course offers the theoretical and practical aspects of using the NX Nastran sensitivity and optimization capabilities. Sensitivity and design optimization can be used to automate the improvement of a proposed design. The NX Nastran design sensitivity and optimization solution is extremely flexible and allows the user to vary the model parameters to minimize an objective function, such as overall weight, given constraints on both the static and dynamic response. The class will cover the definition of design variables, constraints and objectives in NX Nastran, as well as the interpretation of results. The student will learn to use NX Nastran sensitivity and optimization through the presentation of lecture materials and the completion of example problems. The class is focused on NX Nastran and most of the material applies independently of pre- or postprocessor. However, additional material is available for demonstration of use with NX.

**WHO SHOULD ATTEND**

This course is intended for finite element analysts who need to optimize the performance of their components or systems, or understand what parameters in the system most strongly affect performance.

**COURSE TOPICS**

- Understanding structural optimization
- Defining design variables in NX Nastran
- Defining design constraints in NX Nastran
- Defining objective functions in NX Nastran
- Optimization for combinations of static and dynamic loads
- Interpreting design sensitivity and optimization results

**PREREQUISITES**

Required courses:

- NX Nastran Introduction to Dynamic Analysis with NX (NXNAS121)

**PROVIDED COURSE MATERIAL**

- Student Guide
- Activity Material