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Course Description

NX Nastran 12.0

Design Sensitivity and Optimization with Femap for Pre/Post (G2H)

Course Code	NXNAS330
User Level	Advanced
Language	English
Price	$2,100.00 (USD) (Price may not include taxes applicable to your billing region)
Training Center Duration	2 Days
For More Information	Learning and Adoption Services, USA (training.usa.plm@siemens.com)

(G2H) Guaranteed to Hold. Select Here for more information about G2H courses.

The **Design Sensitivity and Optimization with Femap for pre/post** 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 FEMAP.

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.

PREREQUISITES

Required courses:
• NX Nastran Introduction to Dynamic Analysis with Femap (G2H) (NXNAS120)

• Basic understanding of finite element analysis principles, statics, solid mechanics, and basic dynamics.

PROVIDED COURSE MATERIAL

• Student Guide
• Activity Material

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

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