

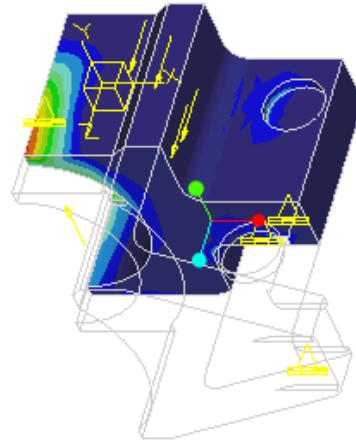
Pro/ENGINEER Mechanical Simulation using Creo Elements/Pro 5.0 (formerly Pro/ENGINEER Wildfire 5.0)

Overview

Course Code TRN-2235-S

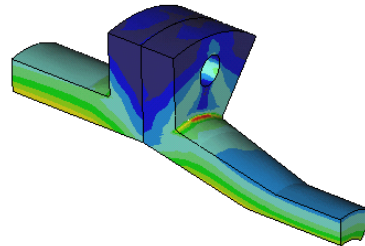
Course Length 40 Hours

This course is designed for new users who want to test, validate, and optimize product designs with the Pro/ENGINEER Wildfire 5.0 Mechanical module. Mechanical enables you to simulate structural and thermal loads on product designs. In this course, you will complete comprehensive, hands-on lab exercises that simulate realistic analysis and design optimization activities. You will also learn about advanced topics such as dynamic analyses, combined mechanical and thermal analyses, and Fatigue Studies. A module on Mechanical Best Practices is also included to help users avoid some of the more common problems that new users encounter. After completing the course, you will be able to run engineering analyses and optimizations on your product design models. At the end of each module, you will find a set of review questions to reinforce critical topics from that module. Your instructor will discuss these with the class. At the end of the course, you will find a course assessment in Pro/FICIENCY intended to evaluate your understanding of the course as a whole. After completing the course you will be well prepared to complete Pro/MECHANICA analyses on product design projects in Pro/ENGINEER Wildfire 5.0.



Course Objectives

- Learning the basic Pro/MECHANICA Analysis Process
- Theory and Mechanica Model Topics
- Exploring Results
- Materials and Material Properties
- Understanding and Using Pro/MECHANICA idealizations
- Understanding and Using Structural Loads
- Understanding and Using Structural Constraints
- Running Structural Analyses
- Running Thermal Analyses
- Convergence
- Analyzing Assemblies with Pro/MECHANICA
- Completing Design and Sensitivity Studies
- Running Optimization Studies
- Advanced Topics
- Analysis Best Practices
- Analysis Projects



Prerequisites

- Three months of Pro/ENGINEER Wildfire 5.0 experience

Audience

- This course is intended for design engineers and mechanical designers. People in related roles will also benefit from taking this course.
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Agenda

Day 1

- Module 1 The Pro/ENGINEER Mechanica Process
- Module 2 Theory and Mechanica Model Topics
- Module 3 Results
- Module 4 Materials and Material Properties

Day 2

- Module 5 Idealizations
- Module 6 Structural Loads
- Module 7 Structural Constraints
- Module 8 Structural Analysis I

Day 3

- Module 9 Structural Analysis II
- Module 10 Thermal Analysis
- Module 11 Convergence
- Module 12 Analyzing Assemblies I

Day 4

- Module 13 Analyzing Assemblies II
- Module 14 Design and Sensitivity Studies
- Module 15 Optimization Studies
- Module 16 Dynamic Analyses

Day 5

- Module 17 Advanced Topics
 - Module 18 Analysis Best Practices
 - Module 19 Projects
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