

Learning Module

Optimizing Engineering Methods with Isight

This course will provide a brief overview of Isight and optimization before moving on to discuss nonlinear optimization theories and applications. Topics such as techniques for design space searching, multi-objective optimization, optimization strategy, and multidisciplinary optimization will be covered during the seminar. Attendees will learn key differences between the optimization algorithms offered by Isight, how to choose the preferred method depending on the problem, how to remedy issues with run-time performance, and other topics relevant to improving the usage and value of Isight for real engineering optimization problems.

Objectives

Gain hands-on experience to understand nonlinear optimization theories and techniques:

- How does exploring the design space can assist with optimization.
- The capabilities of different optimization techniques and exploration strategies.
- Methodologies for Multidisciplinary Design Optimization (MDO).

Knowledge Prerequisites

Introduction to Isight

Language(s) for selected release

English

Brands

Simulia

Available Releases

SIMULIA 2021, SIMULIA 2020, SIMULIA 2019, SIMULIA 2018

Duration

16 hours

Discipline

Isight

Contents

Overview - Optimizing Engineering Methods with Isight

1 - Review

2 - Overview

3 - Exploration and Gradient Methods

4 - Pattern Methods

5 - Single Objective Exploratory Methods

6 - Multi Objective Optimization

7 - Nested Exploration

8 - Optimization Selection Strategy

9 - Pointer and Exploration

10 - Adaptive DOE

11 - Multidisciplinary Optimization

12 - Summary

Appendices