



Locations:

Livermore Software Technology Corp.

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Introduction to LS-OPT

Instructor: Intiaz Gandikota

2 Days - 400 Students 200 w/student ID

Includes on site continental breakfasts, lunches, breaks, class dinner

Includes 30-day LS-DYNA demo license to practice

Prerequisite: An introductory class in LS-DYNA recommended but not necessary

Description: This 2 day course provides an introduction to the use of the optimization code LS-OPT for design. It covers both theoretical concepts and practical aspects of design optimization. An emphasis is placed on interfacing with LS-DYNA. The course includes workshop sessions in which the theoretical topics of the day are applied. The LS-OPT graphical user interface is used to teach input preparation and post-processing.

Contents:

- Introduction to Design optimization using industrial examples
- LS-OPT features
- Optimization Theory:
 - Optimization fundamentals
 - Response Surface Methodology
 - Experimental Design
 - Metamodeling
 - Design model adequacy checking
 - Optimization strategies
 - Sensitivity analysis and variable screening
- Setting up and running a sequential optimization
- Discrete optimization
- Optimization with user defined stage/solver
- Importing analysis results table
- Direct Optimization
- Theory
 - Parameter Identification using curve matching
 - Multidisciplinary Optimization (MDO)
 - Mode tracking
- Variable screening and MDO with reduced variables
- Multi-objective Optimization (MOO) theory
- Setting up and running MOO example - construct Pareto Front
- Post-processing MOO problems
 - Trade-off Plot
 - Parallel Coordinate Plot (PCP)
 - Self-Organizing Maps (SOM)
 - Hyper Radial Visualization (HRV)