



15th LS-DYNA International Conference & Users Meeting

Post-Conference Training (2 day)
Wed & Thurs, June 13th & 14th, 2018, 9am-5pm
Edward Hotel & Convention Center, Dearborn, MI

Introduction to LS-OPT®

Instructor: Imtiaz Gandikota

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

Objective

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.

COURSE CONTENT

- 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 (HR)

For further information regarding pre- and post-conference training, please consult the conference website www.ls-dynaconferences.com or send email to ConfTraining@lstc.com.