

Learning Module

Introduction to Tosca Structure

This course is a comprehensive introduction to the structural optimization capabilities of Tosca Structure.

Objectives

Upon completion of this course you will be able to:

- Upon completion of this course you will be able to create optimal design concepts or improve existing designs of mechanical structures.
- Solve fundamental topology, shape, sizing and bead optimization problems.
- Optimize parts regarding weight, stiffness and durability.
- Visualize, evaluate and transfer optimization results.

Knowledge Prerequisites

None (basic knowledge of finite element analysis).

Language(s) for selected release

English

Brands

Simulia

Available Releases

SIMULIA 2020, SIMULIA 2019, SIMULIA 2018,
SIMULIA 2017, SIMULIA 2016

Duration

16 hours

Discipline

Tosca Structure

Contents

Overview - Introduction to Tosca Structure

1 - Introduction to Optimization

2 - Workflow with Tosca Structure

3 - Topology Optimization Basics

4 - Geometric Restrictions for Topology Optimization

5 - Postprocessing

6 - Sensitivity-based Topology Optimization

7 - Shape Optimization Basics

8 - Geometric Restrictions for Shape Optimization

9 - Sensitivity-based Shape Optimization

10 - Sizing Optimization

11 - Bead Optimization

12 - Configuration and Solver Interfaces