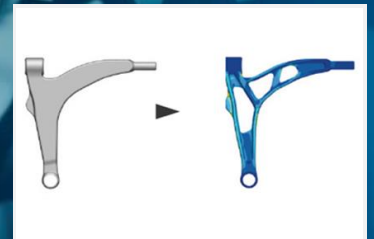


INTRODUCTION TO TOSCA STRUCTURE

SIMULIA COURSE DESCRIPTION



Level: Fundamental

Products: Tosca

Disciplines: Design Exploration & Optimization;
Structures

Audience

Simulation Analysts

Why take this course?

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

What will you learn?

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

Explore Your Learning Options

Live Sessions	Engage in Real-Time, interactive group workshops guided by experts. Learn and collaborate live in your preferred language and time zone.	Join a live session
On-Demand Learning	Access expert-designed courses anytime, anywhere. Perfect for independent learners looking to build skills on their schedule.	Start Learning Now
Private Training	Exclusive, tailor-made sessions designed to meet your team's unique goals with expert guidance.	Contact Us for Custom Training



Gain hands-on experience and master real-world workflows through guided, practical training sessions.

Apply topology and shape optimization techniques to design lighter, more efficient structures.

– SIMULIA Training Expert Team

What You Need to Know Before Starting

None (basic knowledge of finite element analysis)

Agenda for Virtual Live Sessions

Participate in hands-on, real-time workshops where you'll gain practical expertise. Here's what you'll cover:

[Join an Instructor Led Session](#)

Day 1

Lesson 1: Introduction to Optimization
Lesson 2: Workflow with Tosca Structure
Lesson 3: Topology Optimization Basics
Workshop 1: Stiffness Optimization of a Brake Booster
Lesson 4: Geometric Restrictions for Topology Optimization
Workshop 2: Stiffness Optimization of a Control Arm
Lesson 5: Postprocessing and Validation of Optimization Results
Lesson 6: Sensitivity-based Topology Optimization
Workshop 3: Topology Optimization of a Crane Hook

Day 2

Lesson 7: Shape Optimization Basics
Workshop 4: Shape Optimization of a Plate with a Hole
Lesson 8: Geometric Restrictions for Shape Optimization
Workshop 5: Shape Optimization of a Connecting Rod
Lesson 9: Sensitivity-based Shape Optimization
Workshop 6: Sensitivity-based Optimization of a Crane Hook
Lesson 10: Sizing Optimization
Workshop 7: Sizing Optimization of a Holder
Lesson 11: Bead Optimization
Workshop 8: Bead Optimization of an Oil Pan
Workshop 9: Bead Optimization of a Hood (optional)
Lesson 12: Configuration and Solver Interfaces

Want to Learn More?

Expand your knowledge by exploring our [course Catalog](#) and browsing learning paths on [Eduspace](#), our dedicated e-learning platform.

Join the Community!

[Join the SIMULIA community](#) to connect, learn, and stay updated.



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