Simulation Model Design Essentials

R2017x

3DEXPERIENCE®

About this Course

Course objectives

Upon completion of this course you will be able to:

- Create basic native solid geometry.
- Create basic native shell geometry.
- Create assemblies of parts.

Targeted audience

This course is intended for the following roles:

- Mechanical Analyst
- Structural Vibration Analyst
- Noise & Vibration Analyst
- Fluid Mechanics Analyst
- Multiphysics Simulation Researcher
- Finite Element Modeling & Assembly Specialist

Prerequisites

- None

1 day

Day 1

- Lesson 1 — **3D**EXPERIENCE Platform Overview
- Workshop 1 — Getting Started with the **3D**EXPERIENCE Platform
- Lesson 2 — Working with Geometry
- Workshop 2a — Intersecting Pipes Geometry
- Workshop 2b — Screwdriver Geometry
- Workshop 2c — Reinforced Panel Geometry
- Workshop 2d — Connecting Rod and Piston Geometry (optional)
- Lesson 3 — Creating Assemblies
- Workshop 3a — Screwdriver Assembly
- Workshop 3b — Reinforced Panel Assembly
- Workshop 3c — Cargo Crane Assembly
- Workshop 3d — Crimp Forming Assembly (optional)
- Workshop 3e — Connecting Rod and Piston Assembly (optional)

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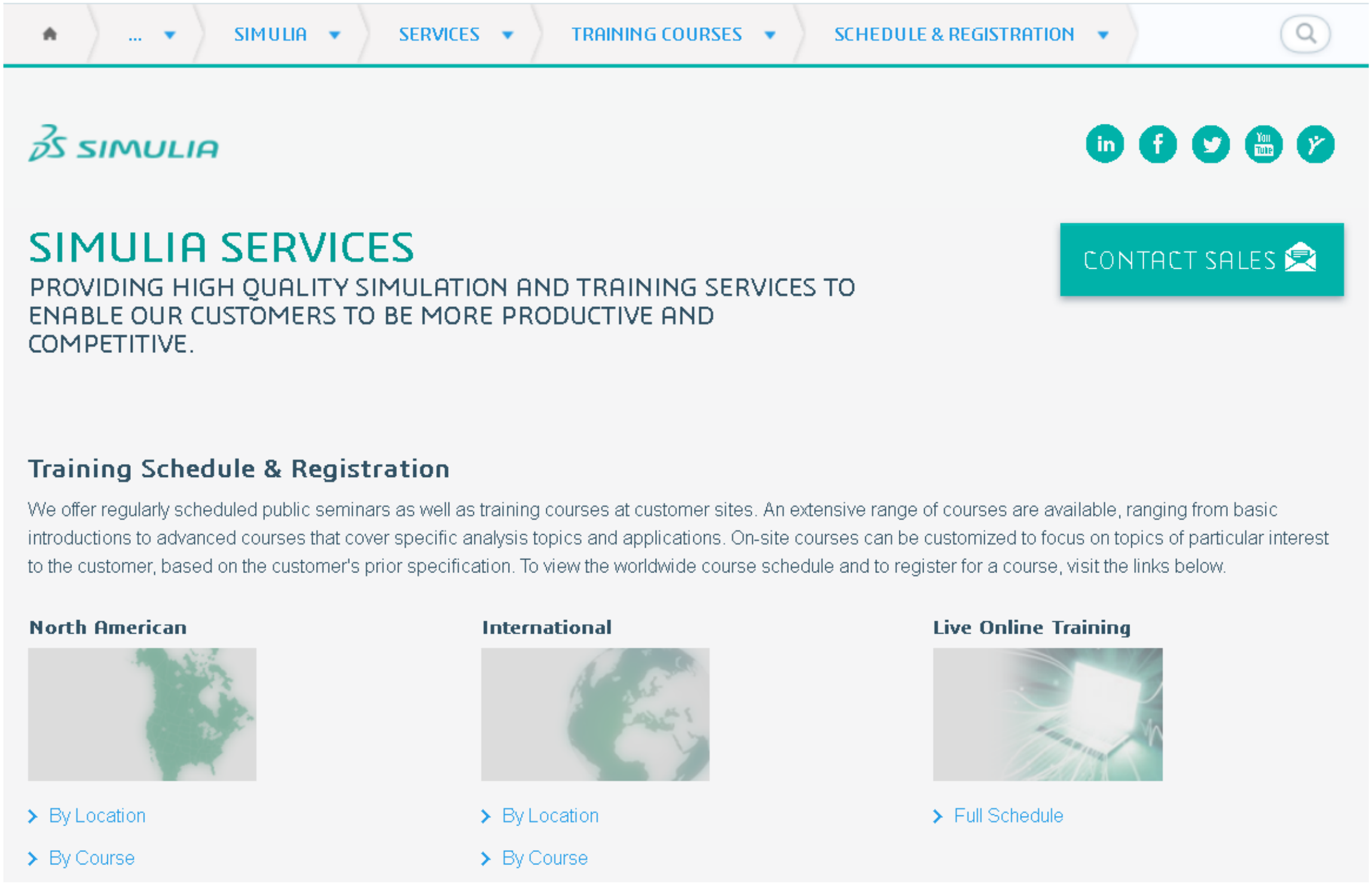


Legal Notices

Revision Status

Lesson 1	12/16	Updated for R2017x
Lesson 2	12/16	Updated for R2017x
Lesson 3	12/16	Updated for R2017x
Workshop 1	12/16	Updated for R2017x
Workshop 2a	12/16	Updated for R2017x
Workshop 2b	12/16	Updated for R2017x
Workshop 2c	12/16	Updated for R2017x
Workshop 2d	12/16	Updated for R2017x
Workshop 3a	12/16	Updated for R2017x
Workshop 3b	12/16	Updated for R2017x
Workshop 3c	12/16	Updated for R2017x
Workshop 3d	12/16	Updated for R2017x
Workshop 3e	12/16	Updated for R2017x

Lesson 1: Introduction to the 3DEXPERIENCE Platform

Lesson content:

- What is the **3D**EXPERIENCE Platform?
- Architecture
- Packaging
- **3D**EXPERIENCE Platform Services
- Connecting to the Platform
- Platform Interface
- Importing and Exporting Data
- Searching Data
- Exploring Data
- Managing Data
- Compute Orchestration Services
- Workshop Preliminaries

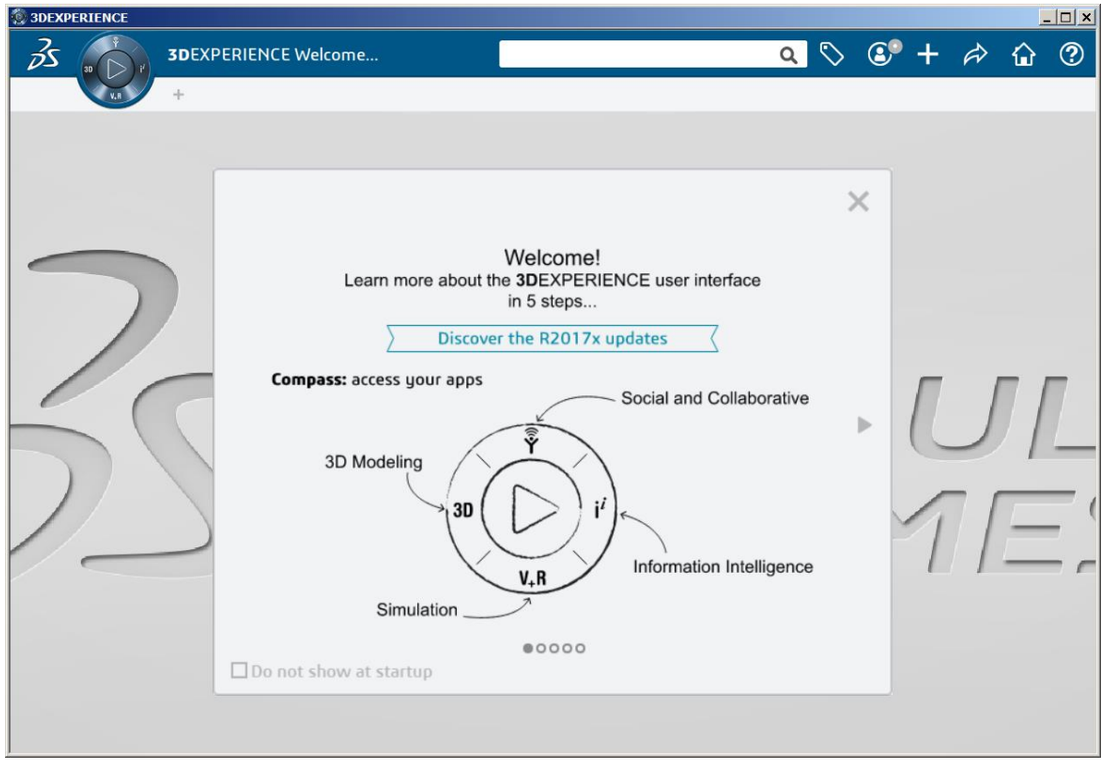
1 hour

Workshop: Getting Started with the 3DEXPERIENCE Platform

In this workshop, you will get familiar with **3D**EXPERIENCE platform and learn basic operations.

After completion of this exercise, you will be able to:

a. Connect to a database
b. Navigate through the **3D**EXPERIENCE Platform interface
c. Import an assembly of parts
d. Explore an assembly of parts
e. Rename objects
f. Change the look of the authoring window
g. Search an assembly of parts in the database
h. Duplicate, delete and save entities



30 minutes

Lesson 2: Working with Geometry

Lesson content:

- Working in the **3D**EXPERIENCE Platform
- Importing vs. Building CAD Models
- Importing CAD Models
- Building CAD Models
- Layout
- Specification Tree
- Data Structure of 3D Parts
- Hybrid Design
- Part Design Essentials
- Generative Wireframe & Surface
- Patterning
- Stacked Commands

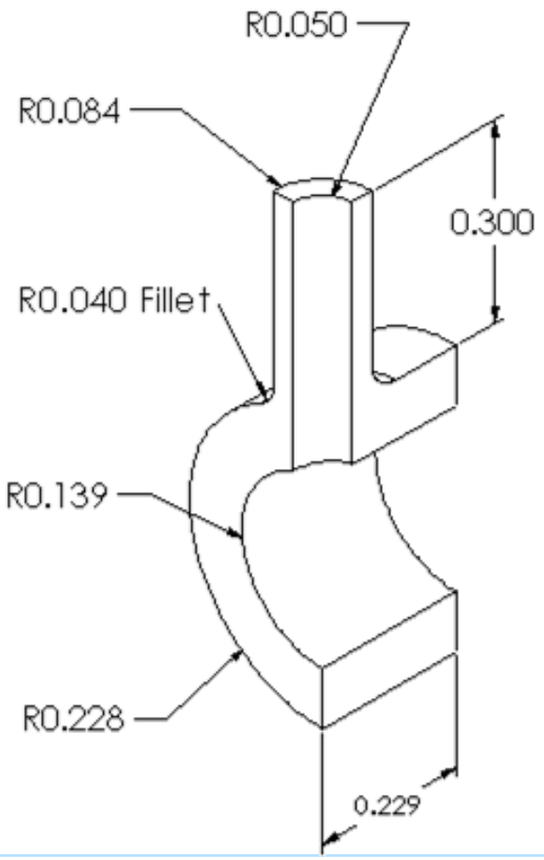
45 minutes

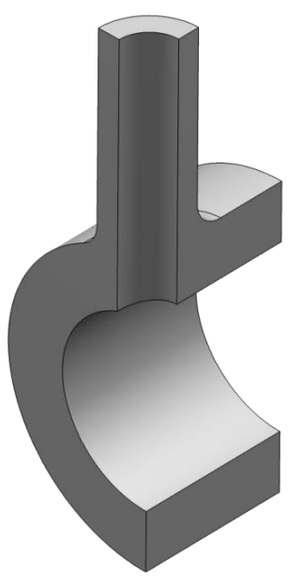
Workshop 2a: Intersecting Pipes Geometry

In this workshop, you will create a three-dimensional model of two pipes intersecting each other. A one-quarter symmetry model will be used.

After completion of this exercise, you will be able to:

a. Create three dimensional solid geometries.
b. Use sketch-based features to refine the geometry.





30 minutes