

TRAINING CATALOG



ersion 2201

Tecnomatix Plant Simulation

Siemens Digital

TECNOMATIXPLANT
SIMULATION

INTRODUCTION



PLM RESSOURCES GMBH IS A COMPANY THAT BASES ITS FOUNDATIONS ON THE CONTRIBUTION OF ADDED VALUES TO ITS CUSTOMERS, HELPING THEM FOCUS ON ALL OF THEIR INTERNAL PROCESSES IN ORDER TO CONCENTRATE ON THE CONTINUOUS IMPROVEMENT OF THEIR PRODUCTS.

PLM RESOURCES, OFFICIAL PARTNER OF SIEMENS DIGITAL INDUSTRIES SOFTWARE IN NORTH AFRICA, AIMS TO OFFER A VARIETY OF SOFTWARES IN DIFFERENT AREAS SUCH AS **TECNOMATIX**, TEAMCENTER, SIMCENTER, NX AND SOLID EDGE.

TECNOMATIX PLANTS SIMULATION

Tecnomatix is a comprehensive portfolio of digital manufacturing solutions that helps digitize manufacturing and the process of transforming innovative ideas and raw materials into transformative products. With Tecnomatix software, product engineering, manufacturing engineering, production and service operations are synchronized to maximize your production efficiency.

Plant Simulation Basics

ID : PLM-2023-PSB

Duration: 5 days

Prerequisites: No prerequisites required

Overview : The Plant Simulation Basics course introduces users of Plant Simulation professional, standard, or application licenses to Plant Simulation and its basic functionality. Students will learn how to build, run and evaluate simulation models. The definition of custom logic (methods) will also be discussed.

TOPICS

Day 1:

- Introduction to simulation studies.
- Overview of Plant Simulation.
- Get started with Plant Simulation.
- Explore the Plant Simulation graphical user interface.
- Perform a basic simulation study (begin).
- Define a target, analyze a simple system, and acquire data.
- Create a simple model.
- Validate the throughput of a simple model.
- Prepare to create a new model from the previous model.
- Create a more detailed model to produce a better result (begin)

Day 2:

- Perform a basic simulation study (finish).
- Create a more detailed model to produce a better result (finish).
Implement basic objects to analyze results.
- Extend a model to include more realistic, modular component.
Create a hierarchical model.
- Identify inherited objects and attributes.

- Navigate and change 3D viewer visualization.
- Simulate machine processing time and failures with distributions. Material flow objects with a capacity greater than one.
- Extend a model to include conveyors and workers (begin).
- Model length-oriented objects (begin).

Day 3:

- Extend a model to include conveyors and workers (finish).
- Model length-oriented objects (finish).
- Setup time, assembly, and dismantle objects.
- Create user-defined attributes and data tables.
- Use basic workers and work shifts.
- Extend a model to include presentation collateral (begin).
- Create experiments and custom reports.
- Gather time, cost, and power consumption statistics. .

Day 4 :

- Extend a model to include presentation collateral (finish).
- Add textured plates, point clouds, and backgrounds.
- Extend a model to include custom logic/methods (begin).
- Insert custom logic.
- Use the Method Debugger and anonymous identifiers.
- Run a method during a simulation.
- Set attribute values with methods.
- Control frames and access data in tables (begin).

Day 5 :

- Extend a model to include custom logic/methods (finish). Control frames and access data in tables (finish).
- Access data in tables, built-in methods, and convert data.
- Create conditional methods and access the contents of an object.
- Model transport systems and setup time.
- Collect statistics with methods.
- Save and load data into a Plant Simulation table.

CREATE PLANT SIMULATION MODELS USING ADVANCED MODELING TECHNIQUES+

ID : PLM-20-CPSMUMT

Duration: 3 days

Prerequisites: No prerequisites required

Overview : In this course is industrial engineers model transporters, debug models, use distributions, use statistical tools, model cranes, use observers, create userdefined dialogs, and create 2D mod.

TOPICS:

Day 1 :

- Model transporters and working on lines.
- Debug models and improve method performance.
- Model using distributions and random numbers.
- Use statistical tools and variance.

Day 2 :

- Model cranes, gantries, and lifts.
- Create user-defined interfaces, dialogs, and menus (part 1).
- Create user-defined interfaces, dialogs, and menus (part 2).

Day 3 :

- Process specific examples (first portion).
- Create models in 2D with display panels.
- Use the 2D icon editor and vector graphics.

EXCHANGE DATA WITH PLANT SIMULATION USING TEAMCENTER, VIRTUAL COMMISSIONING, AND MORE

ID : PLM-202-EDPSUTVCM

Duration: 1 day

Prerequisites: No prerequisites required **Overview :** In this course, industrial engineers, explore Plant Simulation interfaces such as DDE, File link, Teamcenter, Virtual Commissioning, and more.

TOPICS:

Day 1 :

- Use advanced file interfaces and communication protocols.
- Use the Plant Simulation Teamcenter interface.
- Identify virtual commissioning with Plant Simulation.
- Perform virtual commissioning with Plant Simulation.

PERFORM ADVANCED PLANT SIMULATION OPTIMIZATION AND EXPERIMENTATION

ID: PLM-203-PAPOE

Duration: 1 day

Prerequisites: No prerequisites required

Overview : In this course, industrial engineers automatically run experiments and optimize using advanced tools in Plant Simulation.

TOPICS

Day 1:

- Perform basic experimental design.
- Perform advanced experimental design.
- Perform experiments using neural networks.
- Optimize with stochastic simulation.
- Optimize a model using genetic algorithms.

SET UP PLANT SIMULATION 3D OBJECTS

ID : PLM-23-SPS3DO

Duration: 1 day

Prerequisites : No prerequisites required

Overview : In this course, industrial engineers create and use cameras, create and import 3D graphics, and create a custom library of objects.

TOPICS

Day 1:

- Setup and use cameras.
- Import and create a library of 3D objects.
- Create MU animation and animatable objects.
- Customize 3D objects with methods.
- Use advanced worker techniques.

PLANT SIMULATION ADVANCED MODELING AND OPTIMIZATION

ID : PLM-2023-PSAMO

Duration: 4 Days

Prerequisites: No prerequisites required

Overview : The Plant Simulation Advanced Modeling and Optimization course introduces a Plant Simulation professional user to advanced methods of building simulation models, including building simulation applications, using Plant Simulation optimization tools, and improving the performance of existing simulation models.

TOPICS :

- Advanced Transportation Techniques (Automatic Routing, Tugger Trains, Cranes, Stores, etc.)
- Other Advanced Modeling Techniques (i.e. Attribute Explorer, Profiler, Observers, etc.)
- Model Optimization Techniques and Random Numbers (Distributions, Data Fit Tools, Confidence Intervals, Sequential Sampler, Variants Generator, Custom States, etc.)
- Experiment Manager (Multi-Level, Random, Two-Level, Rules Setup, etc.)
- Analysis of Variance, Variance Reduction, Neural Networks, Distributed Simulation, Fuzzy Logic Genetic Algorithms (optimization with Stochastic simulation, sequential optimization, combined optimization, batch) Scheduling and Layout optimization, etc. Customized user dialogs.
- Custom libraries.