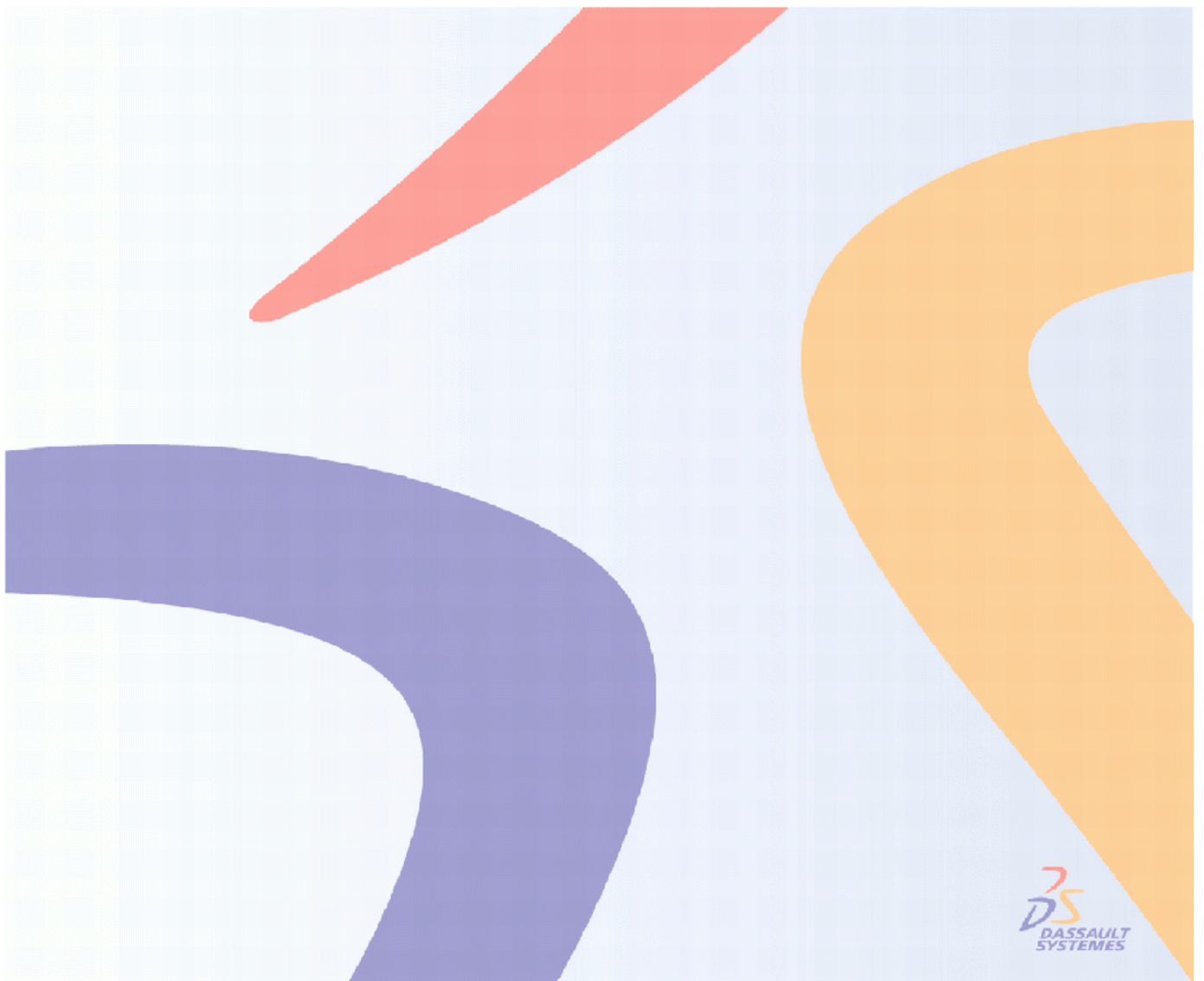


DELMIA V5R19 Course Material Catalog

January 2009 Edition



DELMIA V5R19 Course Material Catalog

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DELMIA Course Material

Assembly Solutions



Course Code	EDU-DEL-E-APA-F
Brand & Release	DELMIA V5R19
Duration	2 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References	None
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Objectives	The Assembly Process Planner - Automotive assists the planner to create the assembly operations that constitute for manufacturing using the parts designed by the designer.
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Participants' Profile	The target audience for this course are Systems and Controls Engineers, Mechanical, and Industrial Engineers.
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Prerequisites	Students attending this course should have the following experience: - V5 fundamentals - Process Engineer
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Content	<p>Getting Started</p> <ul style="list-style-type: none"> --Step 1: Loading a Project in Process Engineer --Step 2: Setting the Graphic Path in Process Engineer --Step 3: Setting the Options in DELMIA V5 --Case Study: Getting Started <p>Defining Assembly</p> <ul style="list-style-type: none"> --Step 1: Loading a Process and Product in DELMIA V5 --Step 2: Creating an Initial Process --Step 3: Editing the AST
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Exercises	<p>Ex. 1: Case Study: Getting Started (20min) / All sectors</p> <p>Ex. 2: Loading Process and Product in DELMIA V5 (10min) / All sectors</p> <p>Ex. 3: Creating an Initial Process (15min) / All sectors</p> <p>Ex. 4: Editing the AST (15min) / All sectors</p> <p>Ex. 5: Case Study: Defining Assembly (30min) / All sectors</p> <p>Ex. 6: Master Project: Toy (60min) / All sectors</p>
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Course Code	EDU-DEL-E-APN-F
Brand & Release	DELMIA V5R19
Duration	2 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-APN-FI-V5R19
 Foils: EDU-DEL-E-APN-FF-V5R19
 Exercises: EDU-DEL-E-APN-FX-V5R19

Objectives

DELMIA Assembly Process Planner assists process planners to author assembly operations and the resulting manufacturing assemblies, and to balance part and assembly distribution between assembly operations.

Participants' Profile

Systems and Controls Engineers, Mechanical and Industrial Engineers.

Prerequisites

Students attending this course should have the following experience:
 - V5 Fundamentals
 - E5 Process Engineer

Content

Introduction
 Lesson 1: Getting Started
 - Workbenches and Toolbars used in this Lesson
 - Stages in the Process
 - Step 1: Loading a Project in E5
 - Step 2: Setting the Graphic Path in E5
 - Step 3: Setting the Options in V5

 Lesson 2: Defining Assembly
 - Workbenches and Toolbars used in this Lesson
 - Stages in the Process
 - Step 1: Loading a Process and Product in V5
 - Step 2: Creating an Initial Process
 - Step 3: Editing the AST

Exercises

Ex. 1: Case Study: Getting Started (20min) / All sectors
 Ex. 2: Loading Process and Product in V5 (10min) / All sectors
 Ex. 3: Creating an Initial Process (15min) / All sectors
 Ex. 4: Editing the AST (15min) / All sectors
 Ex. 5: Case Study: Defining Assembly (30min) / All sectors

Course Code	EDU-DEL-E-ASY-F
Brand & Release	DELMIA V5R19
Duration	3 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-ASY-FI-V5R19 Foils: EDU-DEL-E-ASY-FF-V5R19 Exercises: EDU-DEL-E-ASY-FX-V5R19
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Objectives

Upon completion of this course you will learn how to:
<ul style="list-style-type: none"> - Create the working environment - Create the process plan - Create and Enhance the simulation - Analyze movement - Create output files - Conduct tool validation

Participants' Profile

New DELMIA V5 Users with Simulation, Industrial or Mechanical responsibilities.

Prerequisites

Students attending this course should have experience in V5 Fundamentals and Mechanical Engineering.
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Content

<ul style="list-style-type: none"> - Introduction to DPM Assembly - Create the Working Environment - Create the Process - Create the Simulation - Enhance the Simulation - Analyze the Simulation - Create Output Files - Conduct Tool Validation

Exercises

- Ex. 1: Set Options (5min) / All sectors
- Ex. 2: Create a Project Catalog (15min) / All sectors
- Ex. 3: Insert Plant Floor and Resources (10min) / All sectors
- Ex. 4: Insert the Product (20min) / All sectors
- Ex. 5: Case Study: Create the Working Environment (20min) / All sectors
- Ex. 6: Create a Process Library (5min) / All sectors
- Ex. 7: Create a Process Plan (15min) / All sectors
- Ex. 8: Use the Pert Chart (10min) / All sectors
- Ex. 9: Linking a Product to the Process (20min) / All sectors
- Ex. 10: Verify the Process (20min) / All sectors
- Ex. 11: Case Study: Create the Process Plan (20min) / All sectors
- Ex. 12: Creating Shots and Move Activities (20min) / All sectors
- Ex. 13: Case Study: Create the Simulation (20min) / All sectors
- Ex. 14: Case Study Overview: Enhance the Simulation (30min) / All sectors
- Ex. 15: Use Auto Synchronization (20min) / All sectors
- Ex. 16: Add Text Annotations (20min) / All sectors
- Ex. 17: Create Viewpoint Changes (20min) / All sectors
- Ex. 18: Create Visibility Activities (20min) / All sectors
- Ex. 19: Create Pause and Delay Activities (20min) / All sectors
- Ex. 20: Create Text Messages (20min) / All sectors
- Ex. 21: Create Hyperlinks (20min) / All sectors
- Ex. 22: Case Study: Enhance the Simulation (20min) / All sectors
- Ex. 23: Case Study Overview: Analyze the Simulation (30min) / All sectors
- Ex. 24: Collision Analysis (20min) / All sectors
- Ex. 25: Distance Analysis (20min) / All sectors
- Ex. 26: Band Analysis (20min) / All sectors
- Ex. 27: Bind Analysis (20min) / All sectors
- Ex. 28: Sectioning Analysis (20min) / All sectors
- Ex. 29: Swept Volume (20min) / All sectors
- Ex. 30: Measure Analysis (20min) / All sectors
- Ex. 31: Use the Gantt Chart (20min) / All sectors
- Ex. 32: Case Study: Analyze the Simulation (20min) / All sectors
- Ex. 33: Create an AVI (20min) / All sectors
- Ex. 34: Create HTML Documentation (20min) / All sectors
- Ex. 35: Case Study: Create Output Files (20min) / All sectors
- Ex. 36: Case Study Overview: Conduct Tool Validation (30min) / All sectors
- Ex. 37: Tool Validation with Clash (20min) / All sectors
- Ex. 38: Persistent Validation (20min) / All sectors
- Ex. 39: Validation with Human (20min) / All sectors
- Ex. 40: Case Study: Conduct Tool Validation (20min) / All sectors
- Ex. 41: Master Project: Puzzle (120min) / All sectors

Course Code	EDU-DEL-E-HAS-F
Brand & Release	DELMIA V5R19
Duration	3 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-HAS -FI-V5R19 Foils: EDU-DEL-E-HAS -FF-V5R19 Exercises: EDU-DEL-E-HAS -FX-V5R19

Objectives

In this Course you will learn: How to Create the Working Environment How to Create the Simulation How to Enhance the Simulation How to Analyze the Simulation How to Create Output Files How to Conduct Tool Validation

Participants' Profile

The target audience for this course are new DELMIA V5 Users with Simulation, Industrial or Mechanical Responsibilities.

Prerequisites

Students attending this course should have experience in the V5 Fundamentals and Mechanical Engineering.
--

Content

<ul style="list-style-type: none"> - Introduction - Create the Working Environment - Create the Simulation - Enhance the Simulation - Analyze the Simulation - Create Output Files - Conduct Tool Validation

Exercises

- Ex. 1: Set Options (5min) / All sectors
- Ex. 2: Create the Environment (180min) / All sectors
- Ex. 3: Verify the Process (30min) / All sectors
- Ex. 4: Creating Shots & Move Activities (20min) / All sectors
- Ex. 5: Modifying Move Activities (20min) / All sectors
- Ex. 6: Use Auto Synchronization (20min) / All sectors
- Ex. 7: Add Text Annotations (20min) / All sectors
- Ex. 8: Create Viewpoint Changes (20min) / All sectors
- Ex. 9: Create Visibility Activities (20min) / All sectors
- Ex. 10: Create Pause and Delay Activities (20min) / All sectors
- Ex. 11: Create Text Messages (20min) / All sectors
- Ex. 12: Create Hyperlinks (20min) / All sectors
- Ex. 13: Collision Analysis (20min) / All sectors
- Ex. 14: Distance Analysis (20min) / All sectors
- Ex. 15: Band Analysis (20min) / All sectors
- Ex. 16: Bind Analysis (20min) / All sectors
- Ex. 17: Sectioning Analysis (20min) / All sectors
- Ex. 18: Swept Volume (20min) / All sectors
- Ex. 19: Measure Analysis (20min) / All sectors
- Ex. 20: Use the Gantt Chart (20min) / All sectors
- Ex. 21: Create an AVI (20min) / All sectors
- Ex. 22: Create HTML Documentation (20min) / All sectors
- Ex. 23: Case Study 1: Create the Working Environment (20min) / All sectors
- Ex. 24: Case Study 2: Create the Simulation (20min) / All sectors
- Ex. 25: Case Study 3: Enhance the Simulation (30min) / All sectors
- Ex. 26: Case Study 4: Analyze the Simulation (20min) / All sectors
- Ex. 27: Case Study 5: Create Output Files (20min) / All sectors
- Ex. 28: Case Study 6: Conduct Validations (20min) / All sectors
- Ex. 29: Master Project: Puzzle Project (180min) / All sectors

DELMIA Course Material

D5 QUEST Solutions

Course Code	EDU-DEL-E-AQT-F
Brand & Release	DELMIA V5R19
Duration	1 day
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-AQT -FI-V5R19
 Foils: EDU-DEL-E-AQT -FF-V5R19
 Exercises: EDU-DEL-E-AQT -FX-V5R19

Objectives

QUEST provides a collaborative environment for industrial engineers, manufacturing engineers, and management to develop and prove out best manufacturing flow practices throughout the production design process.

Participants' Profile

The target audience for this course are new DELMIA D5 Users, mechanical engineers, simulation engineers, or industrial engineers with processing, simulation, or analysis responsibilities.

Prerequisites

Students attending this course should have the following experience:

- Manufacturing assembly experience.
- Experience with the Windows operating system.
- Experience of discrete event simulation.
- Experience of working with basic QUEST concepts.

Content

- Introduction
- Advanced QUEST Programming
- Optimization and Experimentation
- QUEST Graphical Outputs
- Hierarchical Modeling
- Trains, Fluids, and Tools and Fixtures
- Final Assembly and Pull Modeling

Exercises

Ex. 1: Programming in SCL and BCL (20min) / All sectors
 Ex. 2: Creating Macros (20min) / All sectors
 Ex. 3: Creating Popups (30min) / All sectors
 Ex. 4: Defining Control Variables (15min) / All sectors
 Ex. 5: Conducting Experimentation (20min) / All sectors
 Ex. 6: Conducting Optimization (20min) / All sectors
 Ex. 7: Creating Videos (20min) / All sectors
 Ex. 8: Creating a Sub Model (20min) / All sectors
 Ex. 9: Creating Groups (20min) / All sectors
 Ex. 10: Modeling Trains (15min) / All sectors
 Ex. 11: Modeling Fluids (15min) / All sectors
 Ex. 12: Modeling Tools and Fixtures (15min) / All sectors
 Ex. 13: Modeling Final Assembly (15min) / All sectors
 Ex. 14: Modeling Pull System (15min) / All sectors

Course Code	EDU-DEL-E-QST-F
Brand & Release	DELMIA V5R19
Duration	4 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-QST-FI-V5R19 Foils: EDU-DEL-E-QST-FF-V5R19 Exercises: EDU-DEL-E-QST-FX-V5R19
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Objectives

Upon Completion of this course you will learn: - The process of building the elements of material handling systems that are specific to the QUEST model - To create and manipulate kinematics devices

Participants' Profile

New DELMIA D5 Users, mechanical engineers, simulation engineers, or industrial engineers with processing, simulation, or analysis responsibilities
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Prerequisites

Students attending this course should have the following experience: - Mechanical design experience. - Experience with the Windows operating system. - Experience of discrete event simulation.
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Content

- Introduction to QUEST - Overview - Getting Started - Material Handling System - Animation and Kinematics - Interrupts - Advanced Preview Usage - Master Project - Course Summary
--

Exercises

- Ex. 1: Create Library (10min) / All sectors
- Ex. 2: Create Basic Simulation (20min) / All sectors
- Ex. 3: Case Study: Create Basic Simulation (10min) / All sectors
- Ex. 4: Conveyor System Modeling (10min) / All sectors
- Ex. 5: Case Study: Conveyor System Modeling (10min) / All sectors
- Ex. 6: Create Pallet (10min) / All sectors
- Ex. 7: Case Study: Pallet Modeling (10min) / All sectors
- Ex. 8: AGV Modeling (20min) / All sectors
- Ex. 9: Case Study: AGV Modeling (10min) / All sectors
- Ex. 10: Labor Modeling (20min) / All sectors
- Ex. 11: Case Study: Labor Modeling (10min) / All sectors
- Ex. 12: Power and Free Modeling (20min) / All sectors
- Ex. 13: Case Study: Power and Free Modeling (10min) / All sectors
- Ex. 14: Build Basic CAD Parts (60min) / All sectors
- Ex. 15: Case Study: Build Basic CAD Parts (10min) / All sectors
- Ex. 16: Build Kinematics Device (10min) / All sectors
- Ex. 17: Case Study: Build Kinematics Device (10min) / All sectors
- Ex. 18: Add Grab and Release (20min) / All sectors
- Ex. 19: Define Shifts and Schedules (10min) / All sectors
- Ex. 20: Case Study: Define Shifts and Schedule (10min) / All sectors
- Ex. 21: Define Failures (10min) / All sectors
- Ex. 22: Case Study: Define Failure (10min) / All sectors
- Ex. 23: Create Crane (10min) / All sectors
- Ex. 24: Create Reports (10min) / All sectors
- Ex. 25: Simulation Control Language (20min) / All sectors
- Ex. 26: Master Project (45min) / All sectors

DELMIA Course Material

Process Detailing Solutions



Course Code	EDU-DEL-E-BIW-F
Brand & Release	DELMIA V5R19
Duration	5 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-BIW-FI-V5R19 Foils: EDU-DEL-E-BIW-FF-V5R19 Exercises: EDU-DEL-E-BIW-FX-V5R19
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Objectives

The objective of this course is to teach you how to work with a spare wheel assembly dataset using the Assembly Process Planner tool, the Body-In-White Fastener Process Planning tool, and the V5 Robotics tool.

Participants' Profile

The target audience for this course are Systems and Controls Engineers, Mechanical and Industrial Engineers.
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Prerequisites

V5 Fundamentals and E5 Process Engineer

Content

<ul style="list-style-type: none"> - Introduction - Preparing the Working Environment - Defining the Assembly - Using the Line Concept - Using the Line Definition - Performing Capacity Planning - Using the Tool Selection Assistant - Build the Layout - Create Tags and Robot Tasks - Optimizing the Simulation

Exercises

- Ex. 1: Recap Exercise 1A: Preparing the Working Environment (20min) / All sectors
- Ex. 2: Recap Exercise 2A: Loading Process and Product in V5 (10min) / All sectors
- Ex. 3: Recap Exercise 2B: Creating an Initial Process (15min) / All sectors
- Ex. 4: Recap Exercise 2C: Editing the AST (15min) / All sectors
- Ex. 5: Case Study 1: Defining the Assembly (30min) / All sectors
- Ex. 6: Recap Exercise 3: Identifying a Set of Lines (10min) / All sectors
- Ex. 7: Recap Exercise 3B: Define Assembly and Fasteners (10min) / All sectors
- Ex. 8: Case Study 2: Using the Line Concept (30min) / All sectors
- Ex. 9: Recap Exercise 4A: Create the Line Layout and Footprint (10min) / All sectors
- Ex. 10: Recap Exercise 4B: Define Resources for the Line (10min) / All sectors
- Ex. 11: Case Study 3: Using the Line Definition (30min) / All sectors
- Ex. 12: Recap Exercise 5A: Using the Manufacturing System Gantt Chart (10min) / All sectors
- Ex. 13: Recap Exercise 5B: Using the Resource Utilization Gantt Chart (10min) / All sectors
- Ex. 14: Recap Exercise 5C: Working with the Gantt Chart (10min) / All sectors
- Ex. 15: Case Study 4: Performing Capacity Planning (30min) / All sectors
- Ex. 16: Recap Exercise 6A: Perform Weld Gun Searches (10min) / All sectors
- Ex. 17: Recap Exercise 6B: Perform Tasks Using the TSA (10min) / All sectors
- Ex. 18: Recap Exercise 6C: Generating Stack and Sections (10min) / All sectors
- Ex. 19: Case Study 5: Usint the Tool Selection Assistant (30min) / All sectors
- Ex. 20: Recap Exercise 7A: Importing Resources (30min) / All sectors
- Ex. 21: Recap Exercise 7B: Using Snap and Attach (30min) / All sectors
- Ex. 22: Case Study 6: Build the Layout (30min) / All sectors
- Ex. 23: Recap Exercise 8B: Move a Robot (30min) / All sectors
- Ex. 24: Recap Exercise 8C: Running a Robot Process (30min) / All sectors
- Ex. 25: Recap Exercise 8D: Creating Weld Gun Actions (30min) / All sectors
- Ex. 26: Case Study 7: Create Tags and Robot Tasks (30min) / All sectors
- Ex. 27: Recap Exercise 9A: Robot Task Analysis (30min) / All sectors
- Ex. 28: Recap Exercise 9B: Create Robot Controller Profiles (30min) / All sectors
- Ex. 29: Case Study 8: Optimizing the Simulation (30min) / All sectors
- Ex. 30: Master Project (30min) / All sectors

DELMIA Course Material

Human Solutions

Course Code	EDU-DEL-E-HSO-F
Brand & Release	DELMIA V5R19
Duration	4 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-HSO-FI-V5R19
 Foils: EDU-DEL-E-HSO-FF-V5R19
 Exercises: EDU-DEL-E-HSO-FX-V5R19

Objectives

Upon completion of this course you will learn how to:

- Create the Working Environment
- Create a Manikin and Workspace
- Performing Human Task Simulation

Participants' Profile

New DELMIA V5 Users with DFA or manufacturing Assembly responsibilities.

Prerequisites

Students attending this course must have knowledge of mechanical engineering and Windows operating system.

Content

- Introduction to Human Solutions
- Create the Working Environment
- Creating a Manikin and Workspace
- Using the Human Measurements Editor
- Performing Human Activity Analysis
- Performing Human Posture Analysis
- Performing Human Task Simulation

Exercises

Ex. 1: Set Options (20min) / All sectors
 Ex. 2: Exploring the 3D Environment (20min) / All sectors
 Ex. 3: Creating the Workspace (20min) / All sectors
 Ex. 4: Setting Manikin Properties (20min) / All sectors
 Ex. 5: Manipulating the Manikin (20min) / All sectors
 Ex. 6: Interacting with the Workspace (20min) / All sectors
 Ex. 7: Setting Manikin Constraints (20min) / All sectors
 Ex. 8: Creating Catalogs (20min) / All sectors
 Ex. 9: Performing Clash Analysis (20min) / All sectors
 Ex. 10: Creating a Process Activity (20min) / All sectors
 Ex. 11: Inserting Resources (20min) / All sectors
 Ex. 12: Master Project: Human Option (60min) / All sectors

Course Code	EDU-DEL-E-HUM-F
Brand & Release	DELMIA V5R19
Duration	4 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-HUM-FI-V5R19
 Foils: EDU-DEL-E-HUM-FF-V5R19
 Exercises: EDU-DEL-E-HUM-FX-V5R19

Objectives

Upon completion of this course, you will learn initial aspects of preparing a self-contained human simulation for an Assembly project. You will also learn simulation of humans and their work environment to ensure natural operation tailored to the necessary tasks

Participants' Profile

New DELMIA V5 Users with DFA or manufacturing Assembly responsibilities

Prerequisites

Students attending this course should have the following experience:
 Mechanical engineering experience
 Experience with the Windows operating system

Content

- Introduction to Human Solutions
- Create the Working Environment
- Creating a Manikin and Workspace
- Using the Human Measurements Editor
- Performing Human Activity Analysis
- Performing Human Posture Analysis
- Performing Human Task Simulation

Exercises

- Ex. 1: Setting Options (20min) / All sectors
- Ex. 2: Exploring the 3D Environment (20min) / All sectors
- Ex. 3: Creating the Workspace (20min) / All sectors
- Ex. 4: Setting Manikin Properties (20min) / All sectors
- Ex. 5: Manipulating the Manikin (20min) / All sectors
- Ex. 6: Interacting with the Workspace (20min) / All sectors
- Ex. 7: Setting Manikin Constraints (20min) / All sectors
- Ex. 8: Creating Catalogs (20min) / All sectors
- Ex. 9: Performing Clash Analysis (20min) / All sectors
- Ex. 10: Human Measurements Editor (20min) / All sectors
- Ex. 11: Human Activity Analysis (20min) / All sectors
- Ex. 12: Human Posture Analysis (20min) / All sectors
- Ex. 13: Creating a Process Activity (20min) / All sectors
- Ex. 14: Inserting Resources (20min) / All sectors
- Ex. 15: Master Project: Using Human Solution (60min) / All sectors

DELMIA Course Material

Manufacturing Hub Solutions



Course Code	EDU-DEL-E-DPE-F
Brand & Release	DELMIA V5R19
Duration	2 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-DPE-FI-V5R19
Foils: EDU-DEL-E-DPE-FF-V5R19
Exercises: EDU-DEL-E-DPE-FX-V5R19

Objectives

Upon completion of this course you will learn how to:

- Organize, evaluate and manage all Product, Process and Resource data in the project in the project tree structure
- Establish relationships between the product, process and the resource
- Integrate PPR Hub to QUEST and DPM
- Importing data from the Hub into QUEST and DPM

Participants' Profile

New E5 mechanical designers

Prerequisites

Students attending this course must have knowledge of Mechanical design and Windows operating system.

Content

- Introduction to Basic Process Engineer
- Overview
- Create a Product View
- Create a Process View
- Create a Resource View
- Deliver Outputs
- Information Functions
- Add Time Analysis
- Change Management

Exercises

Ex. 1: Create New Project (20min) / All sectors
Ex. 2: Case Study: Create a Project (10min) / All sectors
Ex. 3: Create Process Plan (20min) / All sectors
Ex. 4: Create Process Graph (20min) / All sectors
Ex. 5: Create Production Plan (20min) / All sectors
Ex. 6: Case Study: Process Planning (10min) / All sectors
Ex. 7: Create the Resource View (120min) / All sectors
Ex. 8: Create Manufacturing Concept (20min) / All sectors
Ex. 9: Case Study: Resource View (20min) / All sectors
Ex. 10: Create Environment (20min) / All sectors
Ex. 11: Create Time Analysis (20min) / All sectors
Ex. 12: Define & Apply Allowance Set (20min) / All sectors
Ex. 13: Customize & Apply Value Added (20min) / All sectors
Ex. 14: Case Study: Create Time Analysis (10min) / All sectors
Ex. 15: Master Project: Basic Process Engineer (180min) / All sectors

DELMIA Course Material

Machining Solutions



Course Code	EDU-DEL-E-MBG-F
Brand & Release	DELMIA V5R19
Duration	2.5 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-MBG-FI-V5R19
 Foils: EDU-DEL-E-MBG-FF-V5R19
 Exercises: EDU-DEL-E-MBG-FX-V5R19

Objectives

Upon Completion of this course the user will be able to:

- Build fully functional NC machines, with various axis and layout configurations.
- Build a fully functional NC machine, (in this case CATIA cgr files are used).
- Create home positions./ Create toolchange positions. / Assign travel limits.
- Assign speed and acceleration limits. / Assign/modify axis names. / Change axis direction.
- Replace component parts of the finished machine tool.
- Create a functional machine tool from a template machine.positions./ Assign travel limits. / Assign speed and acceleration limits. / Assign/modify axis names. / Change axis direction.
- Replace component parts of the finished machine tool.
- Create a functional machine tool from a template machine.

Participants' Profile

The target audience for this course are new CATIA or DELMIA V5 designers and NC simulation engineers.

Prerequisites

Students attending this course should have the following experience:
 Mechanical design experience/Some familiarization with NC machine tools

Content

- Introduction to NC Machine Tool Builder
- Create the Environment
- Create a Machine Assembly
- Create an Interchangeable Head Milling Machine
- Create a Machine from Foreign Geometry
- Machine Attributes and Properties
- Multi-Axis Lathe

Exercises

- Ex. 1: Create the Environment (30min) / All sectors
- Ex. 2: Retrieve and Position Components (30min) / All sectors
- Ex. 3: Create Constraints (30min) / All sectors
- Ex. 4: Snap Components (30min) / All sectors
- Ex. 5: Prepare the Assembly (30min) / All sectors
- Ex. 6: Case Study: Machine Assembly Design (30min) / All sectors
- Ex. 7: Retrieve and Position Components (30min) / All sectors
- Ex. 8: Create Kinematic Joints (30min) / All sectors
- Ex. 9: Create Mount Points (30min) / All sectors
- Ex. 10: Define Interchangeable Head Revolute Joint (30min) / All sectors
- Ex. 11: Jog a Device (30min) / All sectors
- Ex. 12: Case Study: 3 Axis Machine with Interchangeable Head (30min) / All sectors
- Ex. 13: Create Design Frames (30min) / All sectors
- Ex. 14: Create Kinematic Joints (30min) / All sectors
- Ex. 15: Case Study: Create a Kinematic Machine from Foreign Geometry (20min) / All sectors
- Ex. 16: Machine Attributes and Properties (30min) / All sectors
- Ex. 17: Case Study: Set Machine Attributes (30min) / All sectors
- Ex. 18: Create a Spindle Component (30min) / All sectors
- Ex. 19: Create a Mill/Turn Machine (30min) / All sectors
- Ex. 20: Case Study: Create a Mill/Turn Lathe Machine (30min) / All sectors
- Ex. 21: Master Project: NC Machine Tool Builder (60min) / All sectors

Course Code	EDU-DEL-E-MPP-F
Brand & Release	DELMIA V5R19
Duration	3 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-MPP-FI-V5R19
 Foils: EDU-DEL-E-MPP-FF-V5R19
 Exercises: EDU-DEL-E-MPP-FX-V5R19

Objectives

In this course you will apply the software to the development of a Machining Process Planner.

Upon completion of this course, you will be able to:

- Create the Working Environment
- Develop a Process Plan
- Navigate the In-Process Model
- Create In-Process Tolerances
- Create 2D Drawings
- Create a Process Sheet

Participants' Profile

Process Planners, Mechanical and Industrial Engineers

Prerequisites

Students attending this course must have knowledge of the V5 environment, machining terms and process planning.

Content

- Introduction: Machining Process Planner
- Create the Working Environment
- Create the Process
- Create and Detail the Process Plan
- Verify the Process
- Enhance the Process Plan
- Create Output Files
- Lathe Process Plan
- Inseparable Assemblies
- The Manufacturing Hub

Exercises

- Ex. 1: Set Options (10min) / All sectors
- Ex. 2: Create a Machining Process (15min) / All sectors
- Ex. 3: Create a Project Catalog (15min) / All sectors
- Ex. 4: Create a Product (15min) / All sectors
- Ex. 5: Create the Process Plan (20min) / All sectors
- Ex. 6: Extract Machinable Features (15min) / All sectors
- Ex. 7: Create Machining Operations (15min) / All sectors
- Ex. 8: Sequence and Link Activities (30min) / All sectors
- Ex. 9: Line Balancing Gantt Chart (30min) / All sectors
- Ex. 10: Navigate the In-Process Model (30min) / All sectors
- Ex. 11: Tolerance In-Process Model (30min) / All sectors
- Ex. 12: Calculate Material Removal Volume (30min) / All sectors
- Ex. 13: Create an HTML. Process Sheet (30min) / All sectors
- Ex. 14: Create a Product (30min) / All sectors
- Ex. 15: Create a Product (30min) / All sectors
- Ex. 16: Create Machining Operations (30min) / All sectors
- Ex. 17: Advanced Machining Operations (30min) / All sectors
- Ex. 18: Inseparable Assemblies (30min) / All sectors
- Ex. 19: Retrieve a Process from the Hub (30min) / All sectors
- Ex. 20: Master Project (30min) / All sectors

Course Code	EDU-DEL-E-MSG-F
Brand & Release	DELMIA V5R19
Duration	2 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-MSG-FI-V5R19
 Foils: EDU-DEL-E-MSG-FF-V5R19
 Exercises: EDU-DEL-E-MSG-FX-V5R19

Objectives

Upon the completion of this course you will be able to:

- Assign machines to Part Operations
- Assign turrets (in the case of lathes) to Manufacturing Programs
- Mount tools and workpieces
- Run simulations using Tool path data, MCD data, Material removal, Material removal using foreign NC code
- Set up, detect and analyze simulation faults (collisions, overtravels etc..)
- Create a collision report

Participants' Profile

The target audience for this course are new CATIA or DELMIA V5 designers and NC simulation engineers

Prerequisites

Students attending this course should have the experience in Mechanical design and some familiarization with NC machine tools.

Content

- Introduction to NC Machine Tool Simulation
- Create the Environment
- Mill Tool Path Simulation
- Lathe Tool Path Simulation
- Fault Detection
- Modifications
- Run a MCD Simulation

Exercises

Ex. 1: Create the Environment (30min) / All sectors
 Ex. 2: Mill Tool Path Simulation Preparation (30min) / All sectors
 Ex. 3: Run a Mill Tool Path Simulation (30min) / All sectors
 Ex. 4: Simulate Parallel Axis Machines (30min) / All sectors
 Ex. 5: Case Study: Parallel Axis Horizontal (20min) / All sectors
 Ex. 6: Lathe Tool Path Simulation Preparation (30min) / All sectors
 Ex. 7: Run a Lathe Tool Path Simulation (30min) / All sectors
 Ex. 8: Case Study: C- Axis Lathe (20min) / All sectors
 Ex. 9: Default Clash Detection (30min) / All sectors
 Ex. 10: Exercise 4B: Manual Clash Detection (30min) / All sectors
 Ex. 11: Fault Detection in Batch Mode (30min) / All sectors
 Ex. 12: 5 Axis Gantry (Fault Detection) (20min) / All sectors
 Ex. 13: Edit Machining Operation (30min) / All sectors
 Ex. 14: Modify Tool Path (30min) / All sectors
 Ex. 15: Machine Modification (30min) / All sectors
 Ex. 16: Case Study: 5 Axis Gantry (Modifications) (20min) / All sectors
 Ex. 17: MCD Simulation (30min) / All sectors
 Ex. 18: Material Removal Simulation (30min) / All sectors
 Ex. 19: Case Study: 5 Axis Horizontal (20min) / All sectors
 Ex. 20: Master Project: NC Machine Tool Simulation (60min) / All sectors

DELMIA Course Material

PLM Express Solutions

Course Code	EDU-DEL-E-ARB-F
Brand & Release	DELMIA V5R19
Duration	2 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-ARB-FI-V5R19 Foils: EDU-DEL-E-ARB-FF-V5R19 Exercises: EDU-DEL-E-ARB-FX-V5R19
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Objectives

<ul style="list-style-type: none"> - Prepare the working environment - Create arc welding tasks - Optimize robot motion - Work with Arc Macro Programming

Participants' Profile

The target audience for this course are new DELMIA V5 Users with Simulation, Industrial or Mechanical responsibilities.

Prerequisites

Students attending this course should have experience with V5 Fundamentals and Mechanical Engineering

Content

<ul style="list-style-type: none"> - Introduction to PLMX Arc Welding - Preparing the Working Environment - Creating Arc Welding Tasks - Optimizing Robot Motion - Working with AMP
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Exercises

<p>Ex. 1: Set Options (5min) / All sectors Ex. 2: Prepare the Working Environment (30min) / All sectors Ex. 3: Setup Tasks (30min) / All sectors Ex. 4: Preparing Arc Welding Tasks (30min) / All sectors Ex. 5: Generating the Path (30min) / All sectors Ex. 6: Case Study: Optimizing Robot Motion (60min) / All sectors Ex. 7: Defining the Task (30min) / All sectors Ex. 8: Computing Values (30min) / All sectors Ex. 9: Case Study: Creating Arc Welding Tasks (60min) / All sectors Ex. 10: Optimize Robot Motion (30min) / All sectors Ex. 11: Working with AMP (30min) / All sectors Ex. 12: Case Study: Working with AMP (60min) / All sectors</p>

Course Code	EDU-DEL-E-AUTO-F
Brand & Release	DELMIA V5R19
Duration	2 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-AUTO-FI-V5R19 Foils: EDU-DEL-E-AUTO-FF-V5R19 Exercises: EDU-DEL-E-AUTO-FX-V5R19

Objectives

Upon completion of this course, you will able to learn how to build the virtual environment in DELMIA Automation using following steps: - Create basic control logic - Create internal logic for an existing device i.e. smart device - Create a basic control panel - Combine control logic, a smart device and a control panel into a simulation
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Participants' Profile

Systems and Controls Engineers, Mechanical and Industrial Engineers

Prerequisites

Students attending this course must have experience in V5 Fundamentals, V5 Robotics

Content

- DELMIA Virtual Commissioning Specialist Course - Create Environment - CSM Module & Block Editor - CLM Device Logic Design - HMI Control Panel Design - CSM Device Control Connection

Exercises

Ex. 1: Set Options (30min) / All sectors Ex. 2: Create Control Logic (30min) / All sectors Ex. 3: Case Study: Create Control Logic (60min) / All sectors Ex. 4: Create a Smart Device (30min) / All sectors Ex. 5: Simulate a Smart Device (30min) / All sectors Ex. 6: Case Study: Create a Smart Device (20min) / All sectors Ex. 7: Create a Control Panel (30min) / All sectors Ex. 8: Case Study: Create a Control Panel (20min) / All sectors Ex. 9: Create a Simulation Set (30min) / All sectors Ex. 10: Run a Simulation (30min) / All sectors Ex. 11: Case Study: Device Control Connection (20min) / All sectors Ex. 12: Master Project: Workcell Simulation (20min) / All sectors
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Course Code	EDU-DEL-E-RWB-F
Brand & Release	DELMIA V5R19
Duration	2 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

	Instructor Foils: EDU-DEL-E-RWB-FI-V5R19 Foils: EDU-DEL-E-RWB-FF-V5R19 Exercises: EDU-DEL-E-RWB-FX-V5R19
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Objectives

	In this course you will learn the following: <ul style="list-style-type: none"> - How to prepare the working environment - How to build the layout - How to create tags - Advanced topics
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Participants' Profile

	New DELMIA V5 Users with Simulation, Industrial or Mechanical responsibilities.
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Prerequisites

	Students attending this course should have experience with mechanical engineering and the Windows Operating system.
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Content

	<ul style="list-style-type: none"> - Course Introduction - Preparing the Working Environment - Building the Layout - Creating Tags - Advanced Topics <ul style="list-style-type: none"> - Advanced Robot Functionality - Edit Manufacturing Positions - Device Building
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Exercises

	<p>Ex. 1: Set Options (20min) / All sectors Ex. 2: Insert Products and Resources (20min) / All sectors Ex. 3: Snap and Attach (20min) / All sectors Ex. 4: Case Study: Build the Layout (20min) / All sectors Ex. 5: Create Tags (20min) / All sectors Ex. 6: Advanced Robot Functionality (45min) / All sectors Ex. 7: Edit Manufacturing Positions (15min) / All sectors Ex. 8: Device Building (15min) / All sectors Ex. 9: Course Master Project (30min) / All sectors</p>
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Course Code	EDU-DEL-E-SRB-F
Brand & Release	DELMIA V5R19
Duration	4 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-SRB-FI-V5R19 Foils: EDU-DEL-E-SRB-FF-V5R19 Exercises: EDU-DEL-E-SRB-FX-V5R19
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Objectives

In this course you will learn how to:
- Prepare the work environment
- Build the layout
- Create tags and robot tasks
- Optimize the simulation
- Use advanced spot welding features

Participants' Profile

New DELMIA V5 Users with Simulation, Industrial or Mechanical responsibilities.

Prerequisites

Students attending this course should have experience in mechanical engineering and microsoft windows

Content

- Course Introduction
- Preparing the Working Environment
- Building the Layout
- Create Tags and Robot Tasks
- Optimizing the Simulation
- Advanced Topics
- Advanced Robot Functionality
- Edit Manufacturing Positions
- Offline Programming
- Device Building

Exercises

Ex. 1: Exercise: Set Options (20min) / All sectors
Ex. 2: Insert Products and Resources (20min) / All sectors
Ex. 3: Snap and Attach (20min) / All sectors
Ex. 4: Case Study: Build the Layout (20min) / All sectors
Ex. 5: Create Tags (30min) / All sectors
Ex. 6: Create Robot Tasks (30min) / All sectors
Ex. 7: Move a Robot (30min) / All sectors
Ex. 8: Run a Robot Process (30min) / All sectors
Ex. 9: Robot Tasks & Weld Gun Action (30min) / All sectors
Ex. 10: Case Study: Create Tags and Robot Tasks (30min) / All sectors
Ex. 11: Robot Task Analysis (30min) / All sectors
Ex. 12: Mapping and Monitoring IO (30min) / All sectors
Ex. 13: Multiple Resource Simulation (30min) / All sectors
Ex. 14: Create Robot Controller Profiles (30min) / All sectors
Ex. 15: Case Study: Optimize the Simulation (30min) / All sectors
Ex. 16: Edit Manufacturing Positions (15min) / All sectors
Ex. 17: Advanced Robot Functionality (45min) / All sectors
Ex. 18: Offline Programming (15min) / All sectors
Ex. 19: Device Building (15min) / All sectors
Ex. 20: Master Project (30min) / All sectors

Course Code	EDU-DEL-E-XHM-F
Brand & Release	DELMIA V5R19
Duration	1 day
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-XHM-FI-V5R19 Foils: EDU-DEL-E-XHM-FF-V5R19 Exercises: EDU-DEL-E-XHM-FX-V5R19
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Objectives

Upon completion of this course you will learn how to:
- Set Options to Optimize the Software Environment
- Create a Simulation of Humans and Their Workplace Environment
- Create Manikins to Assess Form, Fit, and Function of Products
- Analyze Manikin Kinematics, Posture, and Activity

Participants' Profile

- Simulation Engineers - Mechanical and Industrial Engineers

Prerequisites

Knowledge of the V5 environment

Content

- Introduction to PLMX Human - Creating the Working Environment - Creating a Manikin and Workspace - Performing Human Task Simulation
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Exercises

Ex. 1: Set Options (20min) / All sectors Ex. 2: Case Study: Manipulating an object (20min) / All sectors Ex. 3: Create Workspace (20min) / All sectors Ex. 4: Setting Manikin Properties (20min) / All sectors Ex. 5: Manipulate Manikin (20min) / All sectors Ex. 6: Interacting with the Workspace (20min) / All sectors Ex. 7: Setting Manikin Constraints (20min) / All sectors Ex. 8: Loading Catalogs (20min) / All sectors Ex. 9: Analyze Clash Result Data (20min) / All sectors Ex. 10: Case Study: Creating a Workspace (20min) / All sectors Ex. 11: Case Study Overview: Human Task Simulation (30min) / All sectors Ex. 12: Create Walk Activity (20min) / All sectors Ex. 13: Case Study: Human Task Simulation (20min) / All sectors Ex. 14: Master Project: Using PLMX Human (60min) / All sectors

DELMIA Course Material

Robotics Solutions



Course Code	EDU-DEL-E-ROB-F
Brand & Release	DELMIA V5R19
Duration	4 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-ROB-FI-V5R19
 Foils: EDU-DEL-E-ROB-FF-V5R19
 Exercises: EDU-DEL-E-ROB-FX-V5R19

Objectives

Upon completion of this course you will learn how to:

- Prepare the working environment
- Build the layout
- Create tags and robot tasks
- Optimize the simulation

Participants' Profile

New DELMIA V5 Users with Simulation, Industrial or Mechanical responsibilities.

Prerequisites

Students attending this course should have experience with V5 Fundamentals and Mechanical Engineering.

Content

- Introduction to V5 Robotics
- Creating the Working Environment
- Building the Layout
- Creating Tags and Robot Tasks
- Optimizing the Simulation

Exercises

Ex. 1: Set Options (5min) / All sectors
 Ex. 2: Insert Products and Resources (30min) / All sectors
 Ex. 3: Snap and Attach (30min) / All sectors
 Ex. 4: Case Study: Build the Layout (30min) / All sectors
 Ex. 5: Create Tags (30min) / All sectors
 Ex. 6: Move a Robot (30min) / All sectors
 Ex. 7: Run a Robot Process (30min) / All sectors
 Ex. 8: Robot Tasks & Weld Gun Action (30min) / All sectors
 Ex. 9: Case Study: Create Tags and Robot Tasks (30min) / All sectors
 Ex. 10: Mapping and Monitoring IOs (30min) / All sectors
 Ex. 11: Multiple Resource Simulation (30min) / All sectors
 Ex. 12: Create Robot Controller Profiles (30min) / All sectors
 Ex. 13: Case Study: Optimize the Simulation (30min) / All sectors
 Ex. 14: Master Project (30min) / All sectors

DELMIA Course Material

Shipbuilding Solutions

Course Code	EDU-DEL-E-DST-F
Brand & Release	DELMIA V5R19
Duration	5 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-DST-FI-V5R19
 Foils: EDU-DEL-E-DST-FF-V5R19
 Exercises: EDU-DEL-E-DST-FX-V5R19

Objectives

DPM - Structure Lofting is a Hub-based solution that allows lofting in 3D, addressing manufacturing requirements for high-end shipyards that utilize upstream process planning.
 You will learn the following:

- * Joining operation
- * Initial marking and cutting operation
- * Plate forming operation
- * Profile bending operation
- * Extracting Workshop documents

Participants' Profile

The target audience for this course are Mechanical and Industrial Engineers.

Prerequisites

Students attending this course should have the following experience:

- * Process Engineer
- * V5 Fundamentals

Content

- DPM Structure Lofting Specialist Course
- Getting Started
- Detailing Joining Operations
- Detailing Initial Marking and Cutting Operations
- Detailing Plate Forming Operations
- Detailing Profile Bending and Twisting Operations
- Updating and Navigating through IPMs
- Working with Workshop documents
- Managing Changes in Design

Exercises

- Ex. 1: Performing Initial Settings (10min) / All sectors
- Ex. 2: Generating activities and IPMs (10min) / All sectors
- Ex. 3: Case Study: Getting Started (15min) / All sectors
- Ex. 4: Adding attachment line, alignment mark, reference line, and material (20min) / All sectors
- Ex. 5: Defining Fit-up (10min) / All sectors
- Ex. 6: Generating Pin jigs (10min) / All sectors
- Ex. 7: Preparing Edges (10min) / All sectors
- Ex. 8: Generating Girth table (10min) / All sectors
- Ex. 9: Case Study: Detailing Joining Operations (30min) / All sectors
- Ex. 10: Editing the Burnside Up (5min) / All sectors
- Ex. 11: Preparing openings (10min) / All sectors
- Ex. 12: Case Study: Detailing Initial Marking and Cutting Operations (10min) / All sectors
- Ex. 13: Generating Roll lines (10min) / All sectors
- Ex. 14: Flattening based on distortion control (10min) / All sectors
- Ex. 15: Creating templates for plates (10min) / All sectors
- Ex. 16: Case Study: Detailing Plate Forming Operations (15min) / All sectors
- Ex. 17: Generating inverse bending curves (10min) / All sectors
- Ex. 18: Creating templates for profiles (5min) / All sectors
- Ex. 19: Case Study: Detailing Profile Bending and Twisting Operations (10min) / All sectors
- Ex. 20: Updating the IPMs (5min) / All sectors
- Ex. 21: Navigating through IPMs (5min) / All sectors
- Ex. 22: Case Study: Updating and Navigating through IPMs (15min) / All sectors
- Ex. 23: Extracting Workshop documents (10min) / All sectors
- Ex. 24: Opening Workshop documents (5min) / All sectors
- Ex. 25: Batch extraction of Workshop documents (5min) / All sectors
- Ex. 26: Case Study: Working with Workshop documents (30min) / All sectors
- Ex. 27: Master Project: UNIT_MASTERPROJECT (60min) / All sectors

Course Code	EDU-DEL-E-SMP-F
Brand & Release	DELMIA V5R19
Duration	4 days
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DEL-E-SMP-FI-V5R19
 Foils: EDU-DEL-E-SMP-FF-V5R19
 Exercises: EDU-DEL-E-SMP-FX-V5R19

Objectives

DELMIA Structure Manufacturing Preparation facilitates work preparation requirements for the shipbuilding. It provides a set of tools to allow lofters to prepare parts for manufacturing.

Participants' Profile

The target audience for this course are Systems and Controls Engineers, Mechanical, and Industrial Engineers.

Prerequisites

Students attending this course should have an experience with V5 fundamentals.

Content

- Structure Manufacturing Preparation-Specialist Course
- Getting Started
- Detailing Joining Operations
- Detailing Initial Marking and Cutting Operations
- Detailing Plate Forming Operations
- Detailing Profile Bending and Twisting Operations
- Working with Workshop documents

Exercises

- Ex. 1: Performing Initial Settings (10min) / All sectors
- Ex. 2: Generating activities and processes (10min) / All sectors
- Ex. 3: Case Study: Getting Started (15min) / All sectors
- Ex. 4: Adding attachment line, alignment mark, reference line, and material (20min) / All sectors
- Ex. 5: Defining Fit-up (10min) / All sectors
- Ex. 6: Preparing Edges (10min) / All sectors
- Ex. 7: Generating Pin jigs (10min) / All sectors
- Ex. 8: Generating Girth table (10min) / All sectors
- Ex. 9: Case Study: Detailing Joining Operations (30min) / All sectors
- Ex. 10: Editing the Burnside Up (5min) / All sectors
- Ex. 11: Preparing openings (10min) / All sectors
- Ex. 12: Case Study: Detailing Initial Marking and Cutting Operations (10min) / All sectors
- Ex. 13: Generating Roll lines (10min) / All sectors
- Ex. 14: Flattening based on distortion control (5min) / All sectors
- Ex. 15: Creating templates for plates (10min) / All sectors
- Ex. 16: Case Study: Detailing Plate Forming Operations (15min) / All sectors
- Ex. 17: Generating inverse bending curves (10min) / All sectors
- Ex. 18: Creating templates for profiles (5min) / All sectors
- Ex. 19: Case Study: Detailing Profile Bending and Twisting Operations (10min) / All sectors
- Ex. 20: Updating the IPMs (5min) / All sectors
- Ex. 21: Extracting Workshop documents (10min) / All sectors
- Ex. 22: Opening Workshop documents (5min) / All sectors
- Ex. 23: Batch extraction of Workshop documents (5min) / All sectors
- Ex. 24: Case Study: Working with Workshop documents (30min) / All sectors