

Computer Integrated Manufacturing (CIM) 2

Catalogue Number	88-3016-0000
Category	Production Process
Duration	15 Hours

Activity 1: Mass Production and CIM

Mass Production

CIMLAB04 Demo Cell Components

Task: Exploring the Demo Cell

Part Production and Assembly

Task: Simulating Production of Multiple Products

Activity 2: Robotic Systems

Robotic Systems in CIM

Robotic System Components

How Robots Move

Work Envelope

Types of Robot Joints

Common Coordinate Systems

Types of Robots

Adding and Connecting Robots in OpenCIM

Task: Adding and Connecting the ASRS

Task: Adding and Connecting the Robot at the CNC Station

Task: Adding and Connecting the Robot at the QC Station

Activity 3: Location Planning

Overview of Cell Structure

Detailed View of the CIM Workstations

Task: Examining the OpenCIM104 Cell

Considerations in Location Planning

Task: Observing the Production Cycle

Activity 4: QC Devices

Automated Quality Control

QC and System Behavior

QC Processes in the OpenCIM Cell

Phantom Parts

Task: Identifying the Correlation between Phantom and Product Parts

Identification Capabilities

What is Barcode?

Barcode Applications

Adding Identification Capabilities

Task: Adding a Barcode Scanner

Task: Defining the Barcode Reading Process

Task: Adding Barcode Reading into the Part Definition

Task: Incorporating the Barcode Into an Existing Product Definition

Task: Updating the Storage Settings

Task: Placing an Order for the Part With the Barcode

Task: Observing the Production Sequence

Activity 5: Feeders

Feeders in the CIM Cell

Types of Feeders

Task: Adding Feeders to Workstation 2

Task: Assigning Feeders to Supplied Parts

Task: Changing the Production Sequence

Task: Updating the Storage Settings

Task: Submitting the Manufacturing Order

Task: Observing the New Production Sequence

Activity 6: Adding an Assembly Station

Assembly and Mass Production

Task: Adding an Assembly Workstation

Task: Defining the Assembly Process

Task: Creating a New Part

Activity 7: Assembled Part Production

Sequence of Production

Palletizing Racks in Assembly

Task: Reviewing the Part Definition

Task: Placing an Order for the Assembled Part

Task: Updating the Storage Settings

Task: Observing the Production Sequence

Impact of Quantity on Production

Task: Setting Initial Quantity in the Manufacturing Order

Task: Updating the Storage Settings

Task: Observing the New Production Cycle

Activity 8: Assembled Product Characteristics

Producing Complex Assembled Products

Planning Considerations

Task: Adding a Rack to the Assembly Station

Task: Defining the Assembly Process

Task: Redefining an Assembled Part

Task: Preparing to Run the Production Cycle

Task: Observing the New Production Cycle

Activity 9: Expanding Assembly Capabilities

Assembly Processes

Planning Considerations

Task: Adding an Automatic Screwdriver

Task: Defining the New Assembly Process

Task: Redefining the Part

Task: Preparing to Run the Production Cycle

Task: Observing the New Production Cycle

Activity 10: Subassemblies and Multi-level Assembly

Multi-level Assembly Operations

Preparing the Cell for Complex Assembly Operations

Task: Adding Storage Devices to the Assembly Station

Process and Part Definition Requirements

Task: Modifying the Machine Definition

Task: Defining the Assembled Subpart

Activity 11: Purchase Orders and MRP

MRP in OpenCIM

Purchase Order Details

Task: Adding a Supplier

Task: Connecting Supplied Parts to Suppliers

Material Requirement Planning

Task: Placing a New Order and Observing its Impact

Task: Verifying Stock Availability

Task: Submitting the Manufacturing Order

Task: Observing the Production Sequence

Activity 12: Multi-level Assembly Production

Complex Multi-level Assembly

Task: Adding a QC Vision Device to the Assembly Station

Task: Modifying the Machine Definition

Task: Updating the Part Definition

Task: Updating the MRP

Task: Updating the Storage Settings

Task: Initiating the Production Cycle for ASSEMBLY PROD

Activity 13: CIM Database: Part I

Databases and Production Management

Databases in OpenCIM

OpenCIM Database Types

Viewing the Production Plan

Task: Preparing to Run the Production Cycle

Task: Tracking Production in the Program View

Task: Tracking Multiple Production in the Program View

Activity 14: CIM Database: Part II

OpenCIM Database Files

Leafpart Log File

Reading Data in the View Leaf Tab

Task: Viewing Production Data in the Leaf View

Comparing Viewing Options

Task: Viewing Production of MILL WOOD PROD in the Leaf View

Activity 15: Conclusion

Modifying the OpenCIM Setup

Supplying Parts in OpenCIM

Task: Adding a Gravity Feeder

Task: Assigning the Feeder to MID SUP

Task: Updating the Storage Settings

Task: Initiating the Production Cycle