

# Robotics and Material Handling with the MHJF I

## *COURSE OUTLINE*

<b>Catalogue Number</b>	77-5003-0000
<b>Category</b>	Robotics
<b>Duration</b>	15 Hours
<b>Pre-requisite Course</b>	Advanced Robotic Programming with the MHJF

### **Course Introduction**

#### **Activity 1: Introduction to RMH**

- What is RMH?
- The Robotic Cell – A Review
- RoboCell Commands – A Review
- The MHJF – A Review

#### **Activity 2: Using Robotic Control Software II**

- Robotic Control Systems
- Recoding and Teaching Positions
- Programming Tools
- Running and Stopping Programs

#### ***Lab Activity A: Setting up the Cell (Hardware Required)***

#### **Activity 3: Inputs and Program Jumps?**

- Inputs and Outputs
- Simulating I/Os
- Program Jumps
- Using Input Signals to Control Robot Operation

#### **Activity 4: Outputs II**

- Outputs – A Review
- The I/O Experiment Table
- Sending Output Signals Manually
- Programming with Output Signals

**Activity 5: Coordinate Systems**

- Linear Movement
- Displaying Position Coordinates
- The Positions Window
- Programming with Linear Movement

***Lab Activity B: Extending the Envelope (Hardware Required)***

**Activity 6: Polling**

- Task Description
- Forcing Inputs
- Polling – Waiting for Inputs
- Programming and Running the Program

**Activity 7: Subroutines**

- Task Description
- Subroutines – A Review
- The RoboCell Subroutine Commands
- Programming with Subroutines

**Activity 8: Sensors**

- Task Description
- Types of Sensors
- Creating a Conditional Loop
- Programming and Running the Program

**Activity 9: The FMS**

- Task Description
- The Conveyor and the Feeder
- The Interrupt Service
- Building and Running the Program

**Activity 10: Conclusion**

- Final Project: Objectives
- Final Project: Task

***MHJF Lab Project (Hardware Required)***

**Post-test**