

# **Programmable Industrial Computer Advanced Control Programming Course**

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## **INTRODUCTION**

The objective of the Advanced Control Programming Course is to present to the PiC, MMC, Digital MMC, Smart Drives & S200w/Digital Link user a comprehensive overview of system requirements and how they are met using PiCPro. The information presented will cover the advanced capabilities of the PiC/MMC controls as well as system characteristics and requirements.

## **WHO SHOULD ATTEND**

- System Engineers
- Application Engineers
- Project Engineers
- Programmers
- Anyone who needs to improve his/her knowledge of the PiC, MMC, Digital MMC, Smart Drives & S200w/Digital Link systems.

## **COURSE LENGTH**

4 1/2 Days: Monday through Friday Noon

## **GENERAL COURSE OBJECTIVES**

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

1. Identify system characteristics that will impact the application.
2. Manipulate Data through the use of arrays & structures.
3. Correctly tune the position loop of a servo system.
4. Identify move types required by the application.
5. Design and debug a ladder program using master/slave motion with registration.

## **PREREQUISITE**

Motion Control Programming Course

# ADVANCED CONTROL PROGRAMMING COURSE OUTLINE

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## INTRODUCTION

Course Overview

- A. Machine Characteristics/  
Requirements
- B. Hardware - Drive, Motor, and  
Feedback Device
- C. Positioning Requirements/  
Determination
- D. Motion Control Programming
- E. Data Handling Procedures
- F. System Integration

## SECTION 1

Define Terminology

Comprehensive discussion/ explanation  
of terminology related to the servo  
world.

Machine Requirements

Feedback Requirements

Motion Requirements

Starting the Position Loop

## SECTION 2

Standard Moves

Referencing

Coordinated Motion

Tune Read and Write

Error Handling

Master/Slave Motion

Data Capture

## SECTION 3

Data Handling

A. Arrays and Structures

B. RAMDisk

## SECTION 4

System Integration

Application work incorporating  
data transfer with motion control  
examples.