

# ControlLogix/Studio 5000

Studio 5000 Logix Designer Level 3:  
Project Development



## Course Number

CCP143

## Course Purpose

Upon completion of this course, given a functional specification for a Logix5000™ application, you should be able to develop a project to meet the specification requirements.

This course covers tasks common to the following hardware, which all use the Logix5000 control engine:

- ControlLogix® controllers
- CompactLogix™ controllers
- SoftLogix™ controllers

This course builds upon your knowledge of common controller terms and operation and your experience with basic ladder logic programming.

You can gain a deeper understanding of project development tasks that are common to all Logix5000 controllers. Such tasks include organizing tasks and routines, organizing controller data, configuring modules, and sharing data.

You will also use producer/consumer technology for multicasting to input and output devices, sharing data between controllers, and controlling remote I/O.

## COURSE AGENDA

### DAY 1

- Creating and Organizing a Project
- Creating a Periodic Task
- Creating an Event Task
- Developing an Add-On Instruction in a Ladder Diagram

### DAY 2

- Organizing Arrays
- Creating a User-Defined Data Type
- Importing Components
- Entering, Editing, and Verifying Ladder Logic
- Configuring a Controller to Produce and Consume Data
- Configuring a Logix5000 Message

### DAY 3

- Configuring Controllers and Modules to Communicate and Share Data over EtherNet/IP
- Communicating with a Local 1756-I/O Module
- Allocating Connections
- Retrieving and Setting Controller Status Values with GSV/SSV Instructions
- Programming a BTI Instruction
- Handling a Major Fault

### DAY 4

- Managing Project Files
- Updating Logix5000 Firmware
- Integrated Practice: Developing a Studio 5000 Logix Designer Project

## WHO SHOULD ATTEND

Individuals who need to develop Studio 5000 Logix Designer® projects for any Logix5000 controller should attend this course.

## PREREQUISITES

To successfully complete this course, the following prerequisites are required:

- Ability to perform basic Microsoft Windows tasks
- Knowledge of common controller terms and operation through experience or one of the following courses:
  - Studio 5000 Logix Designer Level 1: ControlLogix System Fundamentals (Course No. CCP146)
  - RSTrainer for ControlLogix Fundamentals computer-based training (9393-RSTCLX)
- Ability to write basic ladder logic with common instructions, such as bit, timer, counter, move, and comparison instructions through experience or this course:
  - Studio 5000 Logix Designer Level 2: Basic Ladder Logic Programming (Course No. CCP151)

## STUDENT MATERIALS

To enhance and facilitate the students' learning experiences, the following materials are provided as part of the course package:

- Student Manual
  - Includes the key concepts, definitions, examples, and activities
- Lab Book
  - Provides learning activities and hands-on practice
- Studio 5000 Logix Designer and Logix5000 Procedures Guide
  - Provides the steps required to complete basic software tasks common to all Logix5000 controllers
- Logix5000 Controllers Design Considerations Reference Manual:
  - Contains guidelines for designing a Logix5000 application

## HANDS-ON PRACTICE

Throughout this course, you will have the opportunity to practice the skills you have learned through a variety of hands-on exercises using an ABT-TDCLX3-B workstation. Exercises focus on the skills introduced in each lesson.

## NEXT LEARNING LEVEL

Once you have an understanding of the topics and the skills covered in this course, you may want to attend specific programming training such as:

- Studio 5000 Logix Designer Level 4: Function Block Programming (Course No. CCP152)
- Studio 5000 Logix Designer Level 4: Kinetix 6000 (SERCOS) Programming (Course No. CCN145)
- Studio 5000 Logix Designer Level 4: Kinetix 6500 (CIP) Programming (Course No. CCN144)

## COURSE LENGTH

This is a four-day course.

## IACET CEUS

Rockwell Automation is authorized by IACET to offer 2.8 CEUs for this program.



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