

# ControlLogix®/Studio 5000™

## Studio 5000 Logix Designer™ Level 3: Project Development Course Description

### COURSE AGENDA

#### Day 1

- Creating and Organizing a Project
- Creating a Periodic Task
- Creating an Event Task
- Developing an Add-On Instruction in 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 Controllers to Share Data over EtherNet/IP

#### Day 3

- Communicating with a Local 1756-I/O Module
- Communicating with a 1756-I/O Module over an EtherNet/IP Network
- Configuring a Message
- Allocating Connections
- Retrieving and Setting Controller Status Values with GSV/SSV Instructions
- Programming a BTM Instruction
- Handling a Major Fault

#### Day 4

- Managing Project Files
- Updating Firmware
- Integrated Practice - Developing a Logix Designer Project
- *Optional: Configuring Controllers to Share Data over a ControlNet Network*
- *Optional: Communicating with a 1756-I/O Module Over a ControlNet Network*



### 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 requirements of the specification.

This course covers tasks common to the following controllers, which all use the Logix5000 control engine, or operating system:

- 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.

This course presents 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 to multicast input and output devices, share data between controllers, and control remote I/O.

### **Who Should Attend**

Individuals who need to develop 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)

### **Technology Requirements**

All technology is provided for student use in the classroom by Rockwell Automation. It is not necessary for students to bring any technology with them when attending this course.

### **Hands-On Practice**

Throughout the course, you will have the opportunity to practice skills you have learned through a variety of hands-on exercises. You will also have the chance to combine and practice several key skills by completing an integrated practice.

### **Student Materials**

To enhance and facilitate your learning experience, the following materials are provided with the course package:

- *Student Manual*, which contains the topical outlines and exercises. You will use this manual to follow presentations, take notes, and complete the exercises.

### **Student Materials (Cont.)**

- *Studio 5000 Logix Designer and Logix5000 Procedures Guide*, which provides the steps to complete basic software tasks common to all Logix5000 controllers. By following the procedures in this job aid, you can immediately apply what you learn to your own job.
- *Logix5000 Controllers Design Considerations Reference Manual*, which contains guidelines for designing a Logix5000 application.
- *Logix5000 Documentation Reference Guide*. This searchable, electronic resource contains relevant technical publications and is a quick and efficient on-the-job resource.

### **Next Learning Level**

This course is a prerequisite for the following courses:

- *Studio 5000 Logix Designer Level 4: Function Block Programming* (Course No. CCP152)
- *Studio 5000 Logix Designer Level 4: Motion Programming Using Ladder Logic* (Course No. CCN142)

### **Course Length**

This is a four-day course.

### **Course Number**

The course number is CCP143.

### **IACET CEUs**

CEUs Awarded: 2.8



### **To Register**

To register for this or any other Rockwell Automation training course, contact your local authorized Allen-Bradley Distributor or your local Sales/Support office for a complete listing of courses, descriptions, prices, and schedules.

You can also access course information via the Web at <http://www.rockwellautomation.com/training>

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