This course is designed for ABB Integrators who have some programming skills. The course is a quick paced combination of our basic and advanced programming courses. The course provides a brief review of basic programming and then leads to instruction in advanced programming features and techniques.

**Course Duration:** 3 days

**Topics Include:**
- Safety
- Tool Center Points
- Work Objects
- I/O, & Editing
- Routines
- Modules, Configuration, Functions, & Searching And Error Handling
- Interrupts & Event Routines
- Performance Instructions
- Review of basic programming procedures
- Program creation procedures
- Program modification techniques
- Advanced programming instructions and uses

**Course Objectives**

After successfully completing the course, the participant should be able to program and use:
- Recall ABB building policies and emergency (fire or evacuation) instructions.
- Follow robot safety procedures during basic robot operations.
- Safely start up the controller and move the robot using the joystick.
- Apply the theory of singularities at a basic level to anticipate problem areas in programs.
- Save and open programs.
- Define and activate 4,5,6 point, & stationary TCP’s.
- Define and activate Work Objects.
- Create and insert routines and routine instructions into robot programs.
- Define, insert, and edit instructions into programs.
- Discuss I/O and the purpose of the I/O Window.
- Use the search instruction and error handling instructions.
- Use interrupt instructions and trap routines.
- Use event handling routines.
- Use instructions to enhance robot performance.
- Use instructions for avoiding singularity areas.

**Student Profile**

*This course is intended for students that have attended the S4 programming course but require greater knowledge of programming features.*

- Suitable for system programmers or technicians with existing / developed programming skills

**Prerequisites**

- Attendees must have attended the Basic S4 Programming class (US312) within the last six to twelve months or have adequate past programming experience