

# ADVANCED ROBOTIC PROGRAMMING COURSE

Held in Cleveland, OH

The course covers advanced tasks and procedures that an operator, technician, engineer or programmer needs to take full advantage of the multiple capabilities of a Lincoln Electric Robotic Welding system with a FANUC® robot arm.

## Course Overview:

Students successfully completing this course will be able to:

- Edit a program while another program is running
- Make temporary adjustments to weld points to compensate for bad batches of parts
- Make On-The-Fly changes to weld procedures
- Copy and Shift a program to a new location to minimize programming time
- Add explanatory text to programs to make them more user friendly, including setting up custom User Alarm messages
- Use Find, Replace, Copy and Paste commands to simplify programming
- Full controller memory backup and restore
- Use the Tool Offset Utility to minimize programming time when changing to a new style of torch
- Setup the Reference Position Utility to establish a safe position for the robot
- Change weld procedures in the middle of a weld and monitor weld command and feedback signals
- Use Test Cycle to speed up the program testing process
- Use logic instructions such as Registers, Position Registers, Jump-label, If, Call, and Offset to simplify programming parts with multiple, similar weld joints
- Setup and incorporate a User Frame into programming to simplify and minimize the time required for programming multiple welds, to simplify changeovers and point touchups, to add User Frame to a program that may have been taught without it, and how to jog the robot using User Frame
- Day and a half of weld procedure development, adjusting weld procedures

## Course Length:

This course will be a 5 day training class. Class size is limited to 15 people.

## Prerequisites:

The person attending this course must have completed the Lincoln Electric Automation Basic Robotic Training Course and be proficient in basic programming techniques.