Genesis Systems Group is dedicated to maximizing the return on investment you have made in robotic solutions. At Genesis, we believe “hands on” is the best form of training. Within hours, your team member will know how to manipulate the robot. By lunch he or she will have entered their first program and be well on his or her way to improving productivity, decreasing downtime, cutting manufacturing costs and enhancing safety within the plant.

INNOVATION AND EXPERIENCE FROM YOUR SINGLE SOURCE

Our training lab doesn’t just train your team to use a robot. We train your team to program and operate a system. Our training lab has fully integrated systems equipped with welding equipment, auxiliary axis positioners, torch cleaning stations, alignment stations, operator stations and safety equipment.
**Basic Programming and Operations Training**

Genesis provides a basic programming and systems operations class to train the student to safely use the teach pendant to create weld programs, set and change weld data and edit existing programs to efficiently operate a Genesis workcell.

*Topics covered include:*

- Teach pendant programming language
- Programming linear, circle, weave, aux axis
- Robot motion types, robot program creation
- Robot and system error recovery
- Robot welding fundamentals (weld schedule)
- Program editing (insert, delete, copy, touch-up)
- Torch and wrist alignment procedures
- Production maintenance
- Proper orientation of parts for programming and welding
- Instruction set: call, wait, timer, override, I.O., registers, IF JMP LBL

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**Advanced Robot Programming and System Training**

Genesis provides an advanced programming and systems class that trains the student to safely set-up and debug the advanced software functions of the robot and the system. Our class focuses on:

- Safety precautions while performing advanced functions
- Advanced robot programming features and techniques of Touch Sensing, Seam Tracking, Coordinated Motion, Program Shift Utility, Password Protection, RPM, MPW
- Teach pendant menus and displays for entering welding routines and programming commands and weld data
- Robot mastering and mastering procedures
- Save programs - format disk/memory card, system variables and applications
- Program shift, Position registers
- Tool Center Point (TCP), User frames

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Move beyond simple part programming
Maintenance Training

Genesis provides a maintenance class that covers both electrical and mechanical components of the robot and the system. The course is designed to train students to safely perform disassembly and reassembly, as well as electrical trouble shooting on a robot and controller.

Topics covered include:

- Teach pendant overview: menus and displays, welding routine, program commands and weld data
- Robot adjustments such as software limits over travel conditions, cover gear backlash, etc.
- Trouble shooting error codes, fuse base, LED’s base power cannot be turned on
- Recovery from basic system errors
- Robot mastering
- Cable connections
- Saving programs and creating backups
- Replacement of motors, gears, encoders
- Robot I/O, weld, digital UOP/SOP of robot
- Preventative maintenance: correct procedures in changing oil, grease and batteries

The training you need, when and where you need it

On-Site Training

Genesis has the resources to do multi-robot, onsite training. Onsite training for FANUC, Panasonic, KUKA, Motoman and OTC robots is available. Classes can be customized to fit your needs and applications. Onsite training can be scheduled at a time that is convenient for your operation.
WeldPro Off-Line Programming

WeldPro is FANUC Robotics's plug-in to the RoboGuide off-line programming tool, allowing users to simulate a robotic arc welding process in 3D space. Driven exclusively by a FANUC Robotics Virtual Robot Controller, WeldPro is empowered with the most accurate program teaching tools and cycle time information available in any simulation package.

A user can easily navigate through WeldPro to create complete workcells by importing actual tooling and workpiece CAD files. Anyone familiar with programming a FANUC robot will be able to easily create new weld paths with proper torch angles and process parameters. All programs and settings from the virtual workcell can be transferred to the robot to decrease installation time. This is a customer specific four day class for up to four individuals. Each student will need to supply their own laptop with WeldPRO specifications on it.

This course outline includes:

- Software introduction
- Procedure for handling WeldPro product issues
- Creating a workcell
- Menu and view options
- Load a torch CAD file
- Moving robot to a known position
- Jogging a robot
- Importing 3D models
- Adding a part
- Adding a fixture table
- Assigning part to table
- Making a weld path
- Setting weld angles
- Setting weld schedules
- Create and run TP programs
- Alternate teach methods
- Building a workcell
- Workcell elements
- Creating and modifying a weld
- Coordinated Motion
- Creating a custom cell
- Exporting torch path model
- Installing robot options
- File locations
- Ruler function

Genesis offers the Certification for Robotic Arc Welding (CRAW) program for Operators and Technicians. This certification allows welding personnel employed in various welding sectors to measure themselves against standards for their occupation. It also signifies that the CRAW Operator or Technician has demonstrated the capability of working with various codes, standards and specifications. Since proof of active practice or re-examination is required every three years, certification also signifies the CRAW Operator or Technician is current with the welding industry.

Genesis is an authorized approved site for American Welding Society’s (AWS) Certified Robotic Arc Welder (CRAW) seminar and examination and has a Certified Welding Inspector (CWI) and CRAW personnel on site to help you achieve your CRAW-O or CRAW-T certification goals. The Genesis training department has developed a four-day intensive class designed to help students master skills needed to obtain this elite certification.

Major topics include:

- Welding processes
- Welding safety
- Welding symbols
- Shielding gas and applications
- Implementing and understanding the relationship of amperage, voltage and travel speed
- Weld defects and discontinuities
- Trouble shooting welds
- Destructive and non-destructive testing and safety.