This course is for the M93 generation of robot, the goals of this class is to teach students how to identify the electrical components, theory of operation, and proper troubleshooting procedures. Approximately 50% of the course is hands-on troubleshooting of actual robot systems.

Course Duration: 4.5 days

Topics Include:
- Operation of robot control and mechanical unit
- Safety precautions used while troubleshooting electrical system
- Description of components in the robot controller
- Principles of logical troubleshooting from power up, through emergency stop loop and servo system
- Input / Output interfacing between robot controller and peripheral equipment

Course Objectives
After successfully completing the course, the participant should be able to:
- Operate the control panel and programming unit
- Read ABB circuit diagrams
- Set up resolvers, limit and sync switches
- Analyze and interpret system fault codes
- Diagnose and repair basic electrical faults
- Analyze servo-system data and make basic adjustments
- Diagnose and rectify emergency stop conditions
- Make I/O connections to peripheral equipment and safety devices
- Repair and replacement of systems components

Student Profile
- Industrial electricians
- Electrical service technicians
- Engineers
- Supervisory personnel

Prerequisites
- Familiarity with use of electronic test equipment (voltmeter and oscilloscope)
- Basic understanding of digital electronics is helpful
- S3 robot programming US311 is recommended