

# TROUBLESHOOTING SKILLS FOR THE WORK PLACE

Simutech Training System provides an excellent tool for manufacturers whose goal is to develop a skilled work force with minimal down times. Simutech's Systematic Troubleshooting Approach is generic in nature and can be applied to any industry including: food and beverage, automotive, oil and gas, plastics, and industrial packaging.

Our proven training platform sets us apart from other training systems by providing an environment where the users learn by doing. The 3D, hands-on Learning Labs and Troubleshooting Simulations provide a realistic environment where your professionals will learn to diagnose and repair electrical faults in complex production machinery quickly, effectively, and safely.

CORE MODULES		DESCRIPTION	TIME
<b>LEARNING LAB</b>	<b>Troubleshooting Safety</b>	Users will learn crucial electrical safety skills: how to work with electricity safely, why safety precautions are so important, and the kinds of safety issues that may arise during troubleshooting.	1-2 hours
<b>LEARNING LAB</b>	<b>Troubleshooting Fundamentals</b>	Trainees will learn a proven troubleshooting process using Simutech Multimedia's Systematic Troubleshooting Approach, as well as explore meter usage and specific techniques for finding opens and shorts.	4-6 hours
<b>SIMULATION</b>	<b>Troubleshooting Electrical Circuits</b>	Users receive hands-on training on a basic lighting circuit covering key troubleshooting techniques where they can practice, diagnose, and repair a variety of problems. The simulation uses common components such as a fuse, relay, pushbuttons and lights.	8-12 hours*
<b>LEARNING LAB</b>	<b>Control Circuit Components</b>	Focuses on control circuits and their components, such as lights, relays, switches, pushbuttons, control transformers and circuit protection.	2-4 hours
<b>SIMULATION</b>	<b>Troubleshooting Control Circuits</b>	Learners will encounter a range of malfunctions found in typical control circuits. The circuit introduces the user to cascading relay logic and utilizes components including a transformer, solenoid, proximity switch and relays.	8-12 hours*
<b>LEARNING LAB</b>	<b>Motor Control Components</b>	Professionals will learn about motors circuits and their components, including the possible causes for motor failure (both mechanical and circuit failures). They will learn to recognize single phasing in a motor circuit and how to diagnose faulty components such as contactors, overloads and motors.	5-7 hours
<b>SIMULATION</b>	<b>Troubleshooting Motor Circuits</b>	The industrial garage door simulation included in this module introduces components such as a three-phase motor, contactors, overload relay, as well as limit and safety switches. Users will troubleshoot a wide variety of faults in the three-phase power circuit and the control circuit.	8-12 hours*

\*Approximated time to get to the Advanced level

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ADVANCED MODULES		DESCRIPTION	TIME
<b>SIMULATION</b>	<b>Troubleshooting Industrial Controls 1</b>	This simulation involves a fluid processing system often found in industrial and manufacturing settings. Here your professionals will diagnose, and repair faults commonly found in systems involving the heating, pumping, and mixing of multiple liquids in a batch process.	8-12 hours*
<b>SIMULATION</b>	<b>Troubleshooting Programmable Logic Controllers 1 (PLC1)</b>	The PLC1 simulation enables your professional to view, download, run, and test ladder logic programs within the simulation and learn the basics of troubleshooting circuits controlled by PLC ladder programs.	8-12 hours*

\*Approximated time to get to the Advanced level