Course outline:

- Understanding Regulatory Standards
- Risk Assessment Principles
- Hazard Types
- Risk Reduction
- Safeguarding Principles
- Guarding Principles
- Fixed and Movable Guards
- Reaching and Guard Opening Design
- Types of Safety Interlock Devices
- Emergency Stop Devices
- Stop Categories

- Mats, Edges and Bumpers
- Safety Light Curtains, Scanners, Beams
- Special Function of Optical Devices
- Two Hand Control
- Enabling Devices
- Safety Distance Calculations
- Mechanically Linked Relays/Contactors
- Safety Monitoring Relays and Controllers
- Understanding Safety Circuit Design
- Fault Tolerance and Exclusions
- Fluid Power Safety

Anyone responsible for the design, operation, or maintenance of machines needs an understanding of legal requirements, risk assessment, types of hazards, the several levels of circuit design, and available types of safety equipment and how they all come together for a complete safety solution.

Let Schmersal help you take that step into the world of machine safety with this one day course.

A TÜV Certified Functional Safety Engineer for Machinery from our tec.nicum Group will be presenting this training. Their experience will bring the expertise that you are looking for in a machine safeguarding specialist.

For more information regarding this training or our other Engineering Services, please contact:

**Mike DeRosier**  
Engineering Services Manager  
Phone: (914) 500-9995  
E-Mail: mderosier@schmersal.com

**Schmersal USA**  
15 Skyline Drive  
Hawthorne, NY 10532  
www.schmersalusa.com