

Course ID  
**POKAYOKE**  
Course Duration  
**2 days**

Course Title  
**Poka-Yoke: A Comprehensive Workshop for Improving  
Product and Process Quality By Preventing Defects**

**Related  
Courses**

- Failure Modes and Effects Analysis: A Comprehensive Workshop (2 day(s), FMEA)
- Root Cause Analysis of Systems Failure: A Tutorial (2 day(s), RCFA2D)
- Root Cause Analysis of Component Failure: Understanding Human and Engineering Factors for Improved Product Performance (2-4 day(s), RCFA-ME)
- Design of Experiments: An overview (1 day(s), DOE1)
- Design of Experiments: A Comprehensive Course and Workshop (2+ day(s), DOE2)
- Industrial Statistics: A Tutorial (INDSTAT, 2 days)

**Aimed At**

This course is aimed at engineers, project engineers, design engineers, process engineers, program managers, and others responsible for identifying and preventing defects.

**Group Size**

5-25

**Prerequisites**

While there are no formal prerequisites, the course assumes a design, process, industrial, manufacturing, or engineering background.

**Course  
in a Nutshell**

Poka-Yoke is a tool that will help you mistake-proof designs and processes, thereby preventing or greatly reducing product and process errors. The Poka-Yoke concept is based on principles developed by Shideo Shingo, the father of the Poka-Yoke approach and a key member of the Toyota Production System. Your organization can benefit greatly from this analysis tool.

This course utilizes real-life case studies to help you apply this toolkit effectively to your job. The course also incorporates case studies specific to your organization's products and processes. Organizations identify key points for mistake-proofing their designs and processes as an integral part of this training experience.

The Eogogics Poka-Yoke program is an intense 2-day course that will teach your staff how to effectively implement the Poka-Yoke philosophy into existing and future products and processes.

**Customize It!**

Whatever the nature of your system and objective, whether failure prevention or cause determination, we will customize the course to meet your specific needs and concerns. Here are some of the ways in which we can tailor the course to help you get more out of it:

- Additional “workshop days” to allow the participants to work together to prepare Poka-Yoke devices specific to your organization. The workshop day can be scheduled a few weeks after the course to allow time for applying the technologies presented in class under an experienced Poka-Yoke practitioner’s guidance.
- Schedule post-class follow-up consultation for continuing in-house product and process Poka-Yoke implementation.

**Learn How To**

- Work together to design and implement Poka-Yoke devices.
- Proactively eliminate potential errors before they occur.

**Course  
Outline****Day 1: Poka-Yoke Philosophy, Approach, and Opportunities**

- **Poka-Yoke History and Philosophy.** The Toyota Production System. Shideo Shingo. Mistake proofing. Design and process mistake proofing overview. Zero defects quality approaches. Inspection shortfalls and the need for mistake proofing. The disadvantages of customer defect discovery.

*Case study.*

- **Types of Mistakes.** Mistake categories, including forgetfulness, misunderstanding, incorrect identification, lack of experience, willful mistakes due to ignoring rules or procedures, inadvertent errors, slovenliness, lack of standardization, surprises due to unexpected operation and other factors, and intentional mistakes.

*Case study. Group exercise.*

- **Types of Inspections.** Inspection methods, including sampling, 100%, and statistical process control. Operator versus inspector quality responsibilities. The three types of inspection, including judgment inspection, informative inspection, and source inspection. Inspection error types and frequency of occurrence. Personnel turnover issues.

*Inspection exercise.*

- **Poka-Yoke Opportunity Selection.** Using Pareto and other nonconformance data base sources for prioritizing Poka-Yoke opportunities. Sales, warranty, and customer feedback. Manufacturing feedback. Using simulations. Using DFMEA and PFMEA (Design and Process Failure

Modes and Effects Analysis) for preventive action opportunities.

*Client-specific group exercise.*

## **Day 2: Poka-Yoke Device Design, Implementation, and Course Wrap-Up**

- **Identifying and Eliminating Error Sources.** Viewing errors and defects as both inevitable and capable of being eliminated. Eliminating causes at the source. Detecting errors and defects as they are made. Detecting errors and defects either immediately or before they reach the next operation. Using next workstations as Poka-Yoke points. Controlling versus preventing or eliminating causes. 5-Why analysis.

*Client-specific PFMEA and DFMEA exercises.*

- **Poka-Yoke Devices.** Prevention versus detection philosophies. Correcting and preventing mistakes versus making mistakes obvious. Poka-Yoke approaches, including guide pins, appropriate design margins, optical magnification, colored tags, listboxes, spell checks, counters, asymmetric and symmetric designs, error checking logic, exact parts count approaches, blinking lights and alarms, limit and proximity switches, counters, and checklists. Using the highest principle possible, considering elimination, replacement, facilitation, detection, and mitigation.

*Client-specific Poka-Yoke device design exercises.*

- **Poka-Yoke Device Implementation.** Viewing the next workstation as the user. Continuous flow as a Poka-Yoke tool. Training approaches. Common implementation issues. Implementation risks and risk avoidance strategies. Post-implementation effectiveness evaluation.

*Client-specific Poka-Yoke implementation exercises*

- **Course Wrap-Up.** Course review. Questions and answers. Plans for future Poka-Yoke actions. Course critique.

**How You Will  
Learn**

- A highly qualified consulting engineer-instructor will present this course in interactive lecture/workshop format.
- Along with the lectures, we use exercises, puzzles, case studies, and interesting group activities to enrich the instruction and drive home the essential points.
- You will receive a printed Participant Handbook that includes all materials presented in class, which will help you remember and retain what you learned and apply it on your job.
- You will learn Poka-Yoke concepts from a theoretical, practical, and organizational perspective.

*Revision 2Jn-f*