

Measurement Systems Validation & Management

Course format: Instructor-led Online Training

Course duration: 16 hours

Course overview

This course is a departure from typical Measurement Systems Analysis (MSA) courses. As it turns out, assuring data validity and establishing a baseline for Continuous Improvement requires a systematic approach that includes more than a Measurement Systems Analysis like the AIAG GR&R method. In addition, most companies have a need to evaluate inspection processes that result in defect count, pass/fail decisions or other discrete results, a challenge that requires methods not typically covered in an MSA course.

This highly visual Pyzdek Institute course teaches a systematic 3-step approach to Measurement Systems Management including the knowledge, workflow and support materials needed to assure measurement system data are useful for important business decisions. The course content is suitable to the healthcare, plastics, food processing, machining, aerospace, automotive and other manufacturing industries.

Pre-requisites

The course requires a good understanding of Minitab fundamentals including navigation, data integrity, annotations, data visualizations and similar. For those without Minitab experience, please see the Pyzdek Institute's Introduction to Minitab short course.

Attendees must have a PC, a Minitab license (version 19 or later) and a 2-way headset. Two monitors are highly recommended.

Designed for:

This course is designed for Quality, Manufacturing and Laboratory Engineers & Technicians who need to qualify and maintain measurement and inspection systems.

Benefits to attendees

This course provides step-by-step guidance for the choice and use of the methods available in Minitab 19 or 20. Specific topics that will benefit attendees include:

- Improved return on investment in Minitab licenses
- Improved data quality and thus improved business decisions
- A proven system to understand, improve and maintain measurement systems
- Exposure to many useful statistical principles
- Improved results during Customer and 3rd Party Audits
- Major contribution to Operational Excellence, quality award and similar programs

Course structure

Course content	% of time spent
Basic statistical principles	10%
Measurement system principles	25%
Hands-on exercises & interpretation of results	65%

Specific topic covered

- Fundamental statistics relevant to measurement systems management
- The 3-step Measurement Systems Management workflow
- The Measurement Systems Information Warehouse
- Control charts to establish a measurement system baseline
- Stability (time, temperature and other effects)
- Bias and Linearity
- Manufacturing Specifications that compensate for measurement uncertainty
- Repeatability & Reproducibility and the AIAG Gauge R&R Method
- The Gauge Performance Curve and how to use it to judge inspection systems
- Measurement system tips, tricks & pitfalls

Schedule options

- Eight 2-hour sessions
- Four 4-hour sessions (recommended)
- Two 6-hour plus one 4-hour session



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