



BSI Training Academy

Aerospace Measurement Systems Analysis (MSA)

training course

Essential information about the course

Level **1 C 2 C 3**

Measurement System Analysis (MSA) is a method of determining how much the variation within the measurement process contributes to overall process variability. In the aerospace industry it can be applied as a methodology to facilitate process improvement as defined in AS13003.

If you are involved in supporting the Advanced Product Quality Planning (APQP) process especially those involved in gage design, process measurement, and initial process studies to support new product and process introduction then this course could be beneficial for you.

This course will help you to identify the correct measurement systems analysis tool to use when evaluating measurement

systems. It will also equip you with the skills to conduct measurement systems studies on attribute measurement systems using risk analysis methods.

Delegates should have a good understanding of the requirements of ISO 9001:2015 and AS/EN/JISQ 91XX and will ideally have attended one of our 'Requirements' training courses or equivalent.

This one-day activity-based course is structured to optimize your learning using our unique approach to accelerated learning.

Our course agenda

- Measurement Systems Analysis
 - Introduction
 - Summary of terms
 - The measurement process
 - The effects of measurement system variability
 - Effects on decisions
- Measurement issues
 - Introduction
 - Bias, stability, linearity, precision, repeatability and reproducibility
- GRR, sensitivity, consistency and uniformity
- Measurement system variation
 - Capability
 - Performance
- Preparation for a measurement system study
- Analysis of results
 - Gage capability
 - Determining stability
 - Determining bias
 - Determining linearity
- Guidelines for determining repeatability and reproducibility
 - Range method
 - Average and range method
 - Analysis of variance (ANOVA) method example
- Attribute studies
- Hypothesis testing
- Hypothesis test analysis: Cross tab method
- Reflection and end of course

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We want to make sure you have the best learning experience possible. That's why we offer a range of training courses from beginner to expert. We create a positive learning environment so you retain the knowledge and acquire skills that will continue to be of use beyond the course.

Make sure this is the right course for you.

This course is for you if:

- You are involved in supporting the Advanced Product Quality Planning (APQP) process
- You are involved in the implementation of AS/EN/JISQ 91XX
- You already have a good understanding of the requirements of ISO 9001:2015 and AS/EN/JISQ 91XX

What is the course like?

- One day long
- Led by a BSI expert tutor
- Relaxed and comfortable learning environment
- You'll receive detailed course notes to take away

How will I benefit?

- You will learn how to identify whether a measurement system is acceptable for its intended use
- You will gain the skills to conduct repeatability and reproducibility (G&R) studies on variable measurement systems
- Develop professionally
- Network with likeminded peers
- Receive a BSI certificate



Upon successful completion of your course, you will receive an internationally recognized BSI certificate to show your achievement.

Why invest in training from BSI?

When you attend a BSI training course, our tutors are the best in the business. They're truly passionate about sharing their knowledge and ensuring you learn. Trusted experts with years of hands-on and business experience, they bring the subject matter to life with relevant and contemporary examples.

Training delivered at your site



This could be a convenient and cost-effective option, especially if you have multiple delegates.

Talk to one of our experts to find out more.

Next steps with the BSI Academy



Want to learn more? You may be interested:
AS/EN/JISQ 9100 Implementing training course
Understanding core tools for Internal Auditors training course

bsi.

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