

**Training Title**

**ASQ : INTRODUCTION TO QUALITY ENGINEERING**

**Training Duration**

**5 days**

**Training Venue and Dates**

ML099	ASQ Introduction to Quality Engineering	5	23-27 December 2024	\$6,000	Singapore
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In any of the 4 or 5 star hotels. The exact venue will be informed once finalized.

**Training Fees**

- \$6,000 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch.

**Training Certificate**

Define Management Consultancy & Training Certificate of course completion will be issued to all attendees.

**TRAINING DESCRIPTION**

This training is an introduction to continuous improvement that combines concepts from ASQ's Certified Quality Manager of Quality/Organizational Excellence and Certified Quality Improvement Associate bodies of knowledge with the Malcolm Baldrige National Quality Award criteria.

**TRAINING OBJECTIVES**

- Define basic quality management principles.
- Discuss the relationship of the quality engineer to the quality system.
- Analyze the relationship of statistics to a process.
- Use process capability and statistical process control to monitor a process.
- Generate acceptance sampling plans and identify and use technical quality tools.
- Incorporate quality technology in design, customer-supplier relationships, Reliability, Availability, and Maintainability (RAM), materials control, measurement, auditing, quality costs and document control within a quality system.
- Apply problem-solving tools and basic statistical concepts, process control and process capability plans, acceptance sampling, and attribute controls.

**COURSE BENEFITS**

This course will benefit the participants learn essential quality engineering concepts and tools to enhance your effectiveness as a quality engineer. In this course, participants will learn about quality systems, auditing, product and process control and design, quality

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methods and tools, applied statistics, SPC, and Design of Experiments (DOE). Participants will enhance their engineering expertise and their effectiveness as quality engineers with this comprehensive introduction to key quality engineering concepts and tools critical to success in the field of quality engineering today. While this course addresses many areas of the body of knowledge for the 'Certified Quality Engineer' examination, it is not designed as an exam refresher or a preparatory course for the exam.

### WHO SHOULD ATTEND?

Engineers, quality control personnel, inspectors, testing personnel, or those interested in the quality engineering profession.

### TRAINING METHODOLOGY:

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions, and motivate everybody find the right answers. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

Very useful Course Materials will be given.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work & Practical Exercises
- 20% Videos & General Discussions

### DAILY OUTLINE

#### Day 1

Overview of Management and Leadership Principles

- Quality Philosophies and Foundations
- Quality Management System (QMS) Principles
- Strategic Planning
- Quality Information System (QIS)
- Customer Satisfaction
- Customer Relationship Management
- Supply chain Management

#### Day 2

The Quality System

- Elements of the Quality System
- Documentation of the Quality System
- ISO 9001 , ISO 17025 Quality Standards and Other Guidelines
- Document and Data Control

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- Quality Audits
- Cost of Quality (COQ)
- Quality Training

### Day 3

#### Product and Process Design

- Classification of Quality Characteristics
- Design Inputs and Review
- Reliability and Maintainability

#### Product and Process Control

- Tools
- Material Control
- Acceptance Sampling
- Measurement System Analysis (MSA) and Metrology
- Measurement Uncertainty

### Day 4

#### Stakeholder Satisfaction

#### Continuous Improvement

- Quality Control Tools
- Quality Management and Planning Tools
- Continuous Improvement Techniques
- Corrective Action
- Preventive Action

#### Quantitative Methods and Tools

#### Measurement Uncertainty

- Collecting and Summarizing Data
  - Graphical Methods for Depicting Relationships
  - Graphical Methods for Depicting Distributions

### Day 5

- Statistical Decision-Making
- Relationships between Variables
  - Linear Regression and Simple Linear Correlation
- Statistical Process Control (SPC)
  - Objectives and Benefits
  - Common and Special Causes
  - Control Charts
- Process and Performance Capability
  - Process Capability Studies and Indices
- Design and Analysis of Experiments
  - Terminology and ANOVA

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- **Planning and Organizing Experiments**

NOTE:

Pre & Post Tests will be conducted

Case Studies, Group Exercises, Group Discussions, Last Day Review & Assessments will be carried out.

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