

Soft-Train



*At Soft-Train
Technology Works*

Quality Principles (3 Days) ST00053

COURSE GOAL: To enable the student to apply quality principles such as teamwork, quantitative decision-making and process improvement.

PREREQUISITES: None.

LEARNING OBJECTIVES:

Upon completion of this course the student will be able to:

- Understand the role of quality in leadership.
- Be able to apply the principles of quality when working with customers.
- Build a culture of quality in the work environment.
- Be able to analyze quality throughout the business process.

KEY TOPICS:

I. Quality Throughout History

- A. Quality Across All Cultures
- B. The Facets of Quality
- C. Quality in Art and Engineering
- D. Quality Before Business
- E. Ancient Quality-Maintaining, But Rarely Improving

II. The Development of Quality Management

- A. Smeaton and Scientific Engineering
- B. Industrial Standardization in the 1800s
- C. Taylor Introduces Scientific Management
- D. The Split After Taylor
- E. Stewhart's Scientific Management
- F. Deming and Total Quality Management
- G. Quality in North America: 1920 – 1980
- H. From Scientific Method to Quality Management

III. Defining Quality

- A. Tying Together Many Ideas of Quality
- B. Putting It All Together: The Practical Perspective
- C. Achieving Quality: Managing Error
- D. Our Case Study: The Hand-and-Cheese Sandwich Defined
- E. Making the Quality Real

IV. Quality for the Customer

- A.** The Customer/Quality Divorce
- B.** The Voice of the Customer

V. Key Quality Concepts

- A.** Defining Requirements
- B.** Checking
- C.** Using the Information from Checking
- D.** Quality Management as Error Management
- E.** Why Errors Matter: A Systems Perspective
- F.** Understand, Then Improve

VI. Defining, Planning for, Controlling, Assuring, and Delivering Quality

- A.** Quality: A Business Perspective
- B.** Quality: A Process Flow Perspective
- C.** Defining Quality: Requirements Elicitations
- D.** Planning for Quality
- E.** Checking: Quality Control and Inspection
- F.** Quality Assurance
- G.** Delivering Quality: Customer Delight
- H.** Quality from Beginning to End

VII. Leading a Quality Team

- A.** Leading Your Team to Quality
- B.** Quality and Job Description
- C.** Focus on Quality
- D.** The Quality Team and the Soft Side of Quality

VIII. Quality Engineering

- A.** Definable Quality
- B.** End-to-End Quality

- C.** Leading Quality Engineering Efforts
- D.** Automation, Robotics, and Quality
- E.** Engineering for Continuous Improvement

IX. Auditing Quality

- A.** Adding Value and Managing Risk
- B.** Auditing Standards and Methods
- C.** Auditing to Quality Standards
- D.** Adding Value Through Auditing

X. Statistics for Quality

- A.** When Statistics Don't Apply
- B.** Key Statistical Concepts
- C.** Summary of Statistical Techniques
- D.** The Statistical Quality Team
- E.** How Statistics Enhance Quality

XI. Total Quality Management (TQM)

- A.** Quality Management Before TQM
- B.** The Core of TQM
- C.** Deming's 14 Points – A Framework for Quality Management
- D.** Is TQM a Total Solution?
- E.** TQM – First Among Many

XII. Quality Standards – ISO 9000 and More

- A.** ISO 9000
- B.** Other Awards, Standards, and Associations
- C.** Does Certification Improve Quality?

XIII. Six Sigma

- A. A History of Six Sigma
- B. Variations on Six Sigma
- C. Six Sigma Simplified
- D. Evaluating Six Sigma

XIV. The Cost of Quality

- A. Life Cycles and Total Cost Models
- B. Philip Crosby
- C. The Cost of Quality in Any Company – Including Yours
- D. Counting the Cost of Quality

XV. The Capability for Quality: CMM and CMMI

- A. The History of CMMI
- B. CMMI Around the World
- C. Evaluate Your Own Maturity

XVI. Steady Improvement In Japan: Gemba Kaizen and Lean Manufacturing

- A. Kaizen: The Japanese Contribution to TQM
- B. Just in Time Lean Manufacturing

XVII. Challenges and Leadership

- A. Solving a Problem That's Already Solved
- B. Barriers and Challenges
- C. Critical Success Factors
- D. A Quality Improvement Program
- E. Quality Improvement Self-Evaluation
- F. Quality Management for Managers and Workers
- G. Quality – A Lasting Solution

XVIII. Practical Quality for Projects and Programs

- A. Quality Processes for Projects
- B. Quality Integrated into Other Knowledge Areas
- C. Quality Management for Projects at the Business and Technical Levels
- D. Quality Management for Programs and Portfolios
- E. Conclusion: Quality Management for Project Success
- F. Quality Management for Project Success

XIX. Global Quality in the 21st Century

- A. Quality In and Out of the Closet
- B. From National Dominance to National Servant Leadership
- C. Consumers, Customers, Employees, and People
- D. Quality and Global Society
- E. Creating Sustainable, Growing Quality
- F. Quality and Our Future