Snead State Community College

Workforce Development

Introduction to Lean Manufacturing

Self-Paced Online Training

Students will have six weeks to complete

$100.00 per student

This training course provides an introduction to lean manufacturing. Learners will cover concepts that help to identify and eliminate waste in manufacturing production systems. Lean manufacturing techniques presented in this course will improve quality, reduce production time, and decrease cost. Key topics and skills include the importance of total productive maintenance, overall equipment eff ectiveness, implementing the elements of an autonomous maintenance program, maintaining equipment, eliminating sources of contamination, training, visual control methods, equipment inspection, and developing and testing standards.

- **Maintenance Organization**
- **Introduction to Lean Manufacturing**
- **5S Workplace Organization**
- **Total Productive Maintenance (TPM)**
- **Poka-Yoke Mistake Proofing**
- **Lean Production**
- **Introduction to Lean Processes**
- **Visual Workplace**
- **Standardized Work**
- **Kaizen**
- **Value Stream Mapping**
- **Setup Reduction**
- **Lean Six Sigma Principles**
- **Project Management and Customer Determination**
- **Team Development and Management**
- **Measurement**
- **Analysis**
- **Improvement and Control**

Register Here: www.snead.edu/tbiregistration

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Introduction to Lean Manufacturing

This training course provides an introduction to lean manufacturing. Learners will cover concepts that help to identify and eliminate waste in manufacturing production systems. Lean manufacturing techniques presented in this course will improve quality, reduce production time, and decrease cost. Key topics and skills include the importance of total productive maintenance, overall equipment effectiveness, implementing the elements of an autonomous maintenance program, maintaining equipment, eliminating sources of contamination, training, visual control methods, equipment inspection, and developing and testing standards.

Outline

1. Maintenance Organization
   Segment 1 - Lean Manufacturing and the Toyota Production System (TPS)
   Objective 1 - Describe Lean Manufacturing and Discuss Its History
   Objective 2 - Describe the Three Essential Elements of the Toyota Production System (TPS)
   Objective 3 - Describe the Building Blocks of the Toyota Production System (TPS)
   Objective 4 - Describe the Similarities and Differences of Traditional and Lean Manufacturing Methods
   Segment 2 - Workplace Organization
   Objective 5 - Describe the Benefits of Workplace Organization
   Objective 6 - Describe Visual Management Tools Used in the Workplace
   Segment 3 - The 5S Program
   Objective 7 - Describe the 5S Program
   Objective 8 - Describe the First Step in the 5S Program: Sort
   Objective 9 - Describe the Second Step in the 5S Program: Straighten
   Objective 10 - Describe the Third Step in the 5S Program: Shine
   Objective 11 - Describe the Fourth Step in the 5S Program: Standardize
   Objective 12 - Describe the Fifth Step in the 5S Program: Sustain
2. Introduction to Lean Manufacturing
   Objective 1 - Define Lean Manufacturing
   Objective 2 - Define Value-Added and Non-Value-Added Activities
   Objective 3 - Describe the Eight Deadly Wastes
   Objective 4 - Describe the Core Elements of Lean Manufacturing
   Objective 5 - Describe Methods of Standardization
   Objective 6 - Describe Methods of JIT Production
   Objective 7 - Describe Methods of Jidoka
   Objective 8 - Define the Characteristics of a Lean Culture
   Objective 9 - Describe Lean Methods of Continuous Improvement
   Self Review 1
3. 5S Workplace Organization
   Objective 1 - Define the 5S Program
   Objective 2 - Describe How to Perform 5S: Sort
   Objective 3 - Describe How to Perform 5S: Straighten
   Objective 4 - Describe How to Perform 5S: Shine

Objective 5 - Describe How to Perform 5S: Standardize
Objective 6 - Describe How to Perform 5S: Sustain
Self Review 1

4. Total Productive Maintenance (TPM)

Segment 1 - Total Productive Maintenance
Objective 1 - Define Total Productive Maintenance and Explain Its Importance
Objective 2 - Describe the Three Principles of Preventive Maintenance
Objective 3 - Define Predictive Maintenance
Self Review 1

Segment 2 - Overall Equipment Effectiveness
Objective 4 - Define Overall Equipment Effectiveness and Explain Its Importance
Objective 5 - Describe How to Calculate Overall Equipment Effectiveness
Objective 6 - Describe Six Big Losses That Affect Overall Equipment Effectiveness
Objective 7 - Describe a Process for Improving Overall Equipment Effectiveness
Objective 8 - Describe Methods of Eliminating Breakdown Losses
Self Review 2

Segment 3 - Autonomous Maintenance
Objective 9 - Define Autonomous Maintenance and Explain Its Importance
Objective 10 - Describe the Elements of an Autonomous Maintenance Program
Objective 11 - Describe How to Implement an Autonomous Maintenance Program
Self Review 3

Segment 4 - Maintaining Equipment
Objective 12 - Describe Methods of Cleaning Equipment
Objective 13 - Describe Methods of Eliminating Sources of Contamination in Inaccessible Areas
Objective 14 - Describe Methods of Developing and Testing Lubrication Standards
Objective 15 - Describe How to Train Personnel in Autonomous Maintenance
Objective 16 - Describe Visual Control Methods for Autonomous Maintenance
Objective 17 - Describe Methods of Equipment Inspection
Self Review 4

5. Poka-Yoke Mistake Proofing

Segment 1 - Zero Quality Control
Objective 1 - Define Zero Quality Control and Its Four Elements
Objective 2 - Define the Terms Defect and Error
Objective 3 - Describe the Defect Levels of a Plant
Objective 4 - Describe Three Types of Inspection
Self Review 1

Segment 2 - Poka-Yoke Systems
Objective 5 - Define Poka-Yoke and Explain Its Role
Objective 6 - Describe the Elements of a Poka-Yoke System
Objective 7 - Describe Three Poka-Yoke Methods
Objective 8 - Describe How Poka-Yoke Systems Are Used in Informative and Source Inspections
Self Review 2

Segment 3 - Poka-Yoke Devices
Objective 9 - Describe Three Types of Sensing Devices Used in Poka-Yoke Systems
Objective 10 - Explain How to Identify Red Flag Conditions
Objective 11 - Describe Basic Types of Poka-Yoke Contact Method Devices
Objective 12 - Describe Basic Types of Poka-Yoke Fixed-Value Method Devices
Objective 13 - Describe Basic Types of Poka-Yoke Motion-Step Method Devices
Self Review 3

6. Lean Production

Objective 1 - Define Lean Production (Just-In-Time)
Objective 2 - Define Customer Lead Time
Objective 3 - Define Process Cycle Time

Objective 4 - Define Throughput
Objective 5 - Define Takt Time
Objective 6 - Define Production Capacity
Objective 7 - Describe the Operation of a Kanban System
Objective 8 - Define Manufacturing Resource Planning
Objective 9 - Describe How to Interpret a Manufacturing Work Order
Self Review 1

7. Introduction to Lean Processes

Segment 1 - Lean Production and Little's Law
Objective 1 - Define Lean Production (Just-In-Time) and Explain Its Benefits
Objective 2 - Define Lead Time and Explain Its Importance
Objective 3 - Define Throughput and Explain Its Importance
Objective 4 - Define Process Cycle Time and Explain Its Importance
Objective 5 - Define Work-In-Process Inventory and Explain Its Importance
Objective 6 - Describe Little's Law and Explain Its Importance
Self Review 1

Segment 2 - Maximizing Resources and Reducing Wasteful Activities
Objective 7 - Compare Push and Pull Production Systems
Objective 8 - Describe Four Types of Manufacturing Operations
Objective 9 - Define Takt Time and Explain Its Importance
Objective 10 - Define Production Capacity and Explain Its Importance
Objective 11 - Describe the Five Elements of a Lean Production System
Self Review 2

Segment 3 - Types of Kanban Systems and their Operation
Objective 12 - Describe the Functions of a Kanban System and Its Benefits
Objective 13 - Describe the Types of Transport Kanban Cards
Objective 14 - Describe the Types of Production Kanban Cards
Objective 15 - Describe Four Types of Kanban Systems
Objective 16 - Describe the Operation of a Kanban System with Production Ordering
Objective 17 - Describe the Operation of a Kanban System with Signal Cards
Self Review 3

Segment 4 - Purpose of Inventory in a Kanban System
Objective 18 - Define the Replenishment Interval and Explain Its Importance
Objective 19 - Describe the Use of Cycle Stocks, Safety Stocks, and Buffer Stocks in a Lean System
Objective 20 - Describe How to Determine the Number of Kanbans Required
Objective 21 - Describe the Operation of a Supermarket in a Lean System
Objective 22 - Describe Methods of Point-of-Use Storage
Objective 23 - Describe the Operation Rules for a Kanban System
Self Review 4

Segment 5 - Lean Production Scheduling
Objective 24 - Describe the Basic Method of Lean Production Scheduling
Objective 25 - Describe the Operation of Heijunka and Its Benefits
Objective 26 - Define Pitch and Pack-out Quantity and Explain Their Importance
Objective 27 - Describe How to Create and Use a Production Sequence Table
Objective 28 - Describe How to Create and Use a Heijunka Box
Self Review 5

Segment 6 - Flow Production and Cellular Manufacturing
Objective 29 - Define Flow Production and Explain Its Benefits
Objective 30 - Define Line Balancing
Objective 31 - Describe How to Analyze an Operator Balance Chart
Objective 32 - Describe How to Balance Production
Objective 33 - Define Cellular Manufacturing and Explain Its Benefits
Self Review 6

8. Visual Workplace

Segment 1 - Introduction to Visual Communication

Objective 1 - Define Visual Communication and Explain Its Importance
Objective 2 - Define the Concept of the Visual Workplace
Objective 3 - Describe the Elements of a Visual Factory
Objective 4 - Describe Four Types of Visual Devices and Give an Application of Each
Self Review 1

Segment 2 - Elements of the Visual Workplace

Objective 5 - Describe Guidelines for a Visual Facility
Objective 6 - Describe How to Select Workplace Borders
Objective 7 - Describe How to Assign Workplace Item and Location Addresses
Objective 8 - Describe the Elements of a Visual Workplace Territory
Objective 9 - Describe the Elements of a Visual Safety System
Objective 10 - Describe the Elements of a Visual Machine Maintenance System
Objective 11 - Describe the Elements of a Visual Office System
Self Review 2

Segment 3 - Visual Documentation

Objective 12 - Describe Types of Visual Documentation
Objective 13 - Describe the Guidelines of Visual Documentation
Self Review 3

Segment 4 - Visual Control

Objective 14 - Describe the Elements of a Visual Production Control System
Objective 15 - Describe the Guidelines of a Visual Schedule Display
Objective 16 - Describe the Elements of a Visual Quality System
Self Review 4

Segment 5 - Visual Production Indicators

Objective 17 - Describe Guidelines for Selection of Visual Production Indicators
Objective 18 - Describe Guidelines for Selection of Visual Indicator Units of Measurement
Objective 19 - Describe the Elements of a Visual Observation System
Objective 20 - Describe Types of Visual Displays
Objective 21 - Describe Guidelines for Visual Display Design
Objective 22 - Describe How to Select a Location for a Visual Display
Self Review 5

Segment 6 - Creating and Sustaining the Visual Workplace

Objective 23 - Describe the Steps to Create a Visual Workplace
Objective 24 - Describe How to Sustain a Visual Workplace
Self Review 6

9. Standardized Work

Segment 1 - Standards and Standardization

Objective 1 - Define a Standard and Explain Its Role in Lean Manufacturing
Objective 2 - Describe Types of Standards
Objective 3 - Define Standardization and Explain Its Role in Lean Manufacturing
Objective 4 - Describe Six Levels of Standardization
Objective 5 - Define Standardized Work and Explain Its Role in Lean Manufacturing
Self Review 1

Segment 2 - Standardized Work Documents

Objective 6 - Describe How to Interpret a Production Capacity Sheet
Objective 7 - Describe How to Interpret a Standardized Work Combination Table
Objective 8 - Describe How to Interpret a Job Element Sheet
Objective 9 - Describe How to Create and Interpret a Standardized Work Chart
Self Review 2

Segment 3 - Using Standards

Objective 10 - Explain How Standards Are Created

Objective 11 - Explain How Standards Are Communicated
Objective 12 - Describe the Layout of Standards Manuals
Self Review 3

Segment 4 - Improving Standards

Objective 13 - Define Genba Kanri
Objective 14 - Describe How Standards Are Improved
Self Review 4

10. Kaizen

Segment 1 - Kaizen and Its Role in Lean Manufacturing

Objective 1 - Define the Term Kaizen and Its Role in Lean Manufacturing
Objective 2 - Define Kaizen Event and Explain Its Role in Lean Manufacturing
Objective 3 - Describe the Phases of a Kaizen Event or Workshop
Self Review 1

Segment 2 - Kaizen Event Planning

Objective 4 - Describe How to Choose a Project for a Kaizen Event
Objective 5 - Describe How to Select Team Members for a Kaizen Event Project
Objective 6 - Describe How to Train Kaizen Event Team Members
Objective 7 - Describe How to Prepare a Work Area for a Kaizen Event
Objective 8 - Describe How to Schedule a Kaizen Event
Objective 9 - Describe How to Communicate a Kaizen Event
Self Review 2

Segment 3 - Kaizen Event Implementation

Objective 10 - Describe How to Orient Team Members and Assign Roles for a Kaizen Event
Objective 11 - Describe How to Establish the Rules of Conduct for a Kaizen Event
Objective 12 - Describe How to Conduct a Kaizen Event
Objective 13 - Describe Methods of Data Collection for a Kaizen Event
Objective 14 - Describe How to Perform a Time and Motion Study for a Kaizen Event
Objective 15 - Describe the Methods Used in a Kaizen Event for Identifying and Analyzing Waste
Objective 16 - Describe the Methods Used in a Kaizen Event for Analyzing Data and Formulating Improvements
Objective 17 - Define the Types of A3 Reports and Give an Application of Each
Objective 18 - Describe How to Create an A3 Report for a Kaizen Event
Self Review 3

Segment 4 - Kaizen Event Conclusion

Objective 19 - Describe How to Make a Presentation for a Kaizen Event
Objective 20 - Describe How to Implement the Results of a Kaizen Event
Self Review 4

Segment 5 - Kaizen Event Examples

Objective 21 - Describe How to Perform a 5S Kaizen Event
Objective 22 - Describe How to Perform a Bottleneck Kaizen Event
Objective 23 - Describe How to Perform a Lead Time Reduction Kaizen Event
Self Review 5

11. Value Stream Mapping

Segment 1 - Value and Value-Added Processes

Objective 1 - Define Customer Value and Explain Its Significance
Objective 2 - Describe How to Use a Kano Model to Classify Customer Requirements
Objective 3 - Define Value-Added and Non-Value-Added Processes
Self Review 1

Segment 2 - Value Stream and the Value Stream Map

Objective 4 - Define a Value Stream and Explain Its Significance
Objective 5 - Describe a Value Stream Map and Explain Its Purpose
Objective 6 - Describe the Elements of a Value Stream Map
Objective 7 - Define the Value Stream Map Icons

Self Review 2

Segment 3 - Preparation for Value Stream Mapping

Objective 8 - Define a Product Family Matrix and Explain Its Importance
Objective 9 - Describe How to Interpret a Product Family Matrix
Objective 10 - Define a Product Quantity Analysis and Explain Its Importance
Objective 11 - Describe How to Apply a Product Quantity Analysis
Objective 12 - Define a SIPOC Diagram and Explain Its Purpose
Objective 13 - Describe How to Create a SIPOC Diagram
Objective 14 - Describe How to Analyze a SIPOC Diagram
Objective 15 - Define a Swim Lane Flow Chart and Explain Its Purpose
Objective 16 - Describe How to Create a Swim Lane Flow Chart
Objective 17 - Describe How to Analyze a Swim Lane Flow Chart
Objective 18 - Describe How to Use a Line Balance Chart for Value Stream Mapping
Self Review 3

Segment 4 - Current State Value Stream Mapping

Objective 19 - Describe How to Gather Information for Value Stream Mapping
Objective 20 - Describe How to Create a Current State Value Stream Map
Objective 21 - Describe How to Tabulate a Value Stream Box Score
Self Review 4

Segment 5 - Process Analysis Using a Value Stream Map

Objective 22 - Describe How to Calculate a Value-Added Ratio
Objective 23 - Describe How to Analyze and Interpret a Value Stream Map
Self Review 5

Segment 6 - Future State Value Stream Map and Implementation

Objective 24 - Describe How to Create a Future State Value Stream Map
Objective 25 - Describe How to Implement a Future State Value Stream
Self Review 6

12. Setup Reduction

Segment 1 - Setup Reduction and Lean

Objective 1 - Describe How Setup Reduction Applies to Lean Manufacturing
Objective 2 - Describe the Importance of Setup Reduction in Small-Lot Production
Objective 3 - Explain the Difference between Processes and Operations
Objective 4 - Define Single-Minute Exchange of Dies (SMED) and Explain Its Benefits

Segment 2 - Analyzing Setup Processes

Objective 5 - Describe the Four Phases of Traditional Setup
Objective 6 - Describe How to Analyze a Setup Procedure for SMED

Segment 3 - Internal and External Tasks

Objective 7 - Define Three Types of Setup Tasks and Provide Examples
Objective 8 - Describe Three Techniques for Separating External and Internal Tasks
Objective 9 - Describe Three Techniques for Converting Internal Tasks into External Tasks

Segment 4 - Streamlining Changeover

Objective 10 - Describe Six Organizational Techniques for Streamlining Setup Tasks
Objective 11 - Describe Four Common Steps to Reduce Changeover Time to Single-Digits
Objective 12 - Define Parallel Operations and Explain How to Apply Them
Objective 13 - Describe How to Substitute Functional Tooling
Objective 14 - Describe How to Eliminate Adjustments during Setup
Objective 15 - Define Mechanization and Describe How It Can Improve Internal Setup
Objective 16 - Describe How to Document SMED Progress

13. Lean Six Sigma Principles

Segment 1 - Six Sigma

Objective 1 - Define Six Sigma and Explain Its Role and Benefits
Objective 2 - Define Lean Six Sigma and Explain Its Role and Benefits
Objective 3 - Describe the History of Lean Six Sigma

Objective 4 - Describe the Steps of DMAIC
Objective 5 - Describe the Stages of a Lean Six Sigma Project

Segment 2 - Six Sigma Business Drivers

Objective 6 - Describe the Basic Operation of a Business
Objective 7 - Describe the Key Drivers of a Business
Objective 8 - Define the Balanced Scorecard and Explain Its Importance
Objective 9 - Describe Two Types of Customers, Internal and External, and Explain Their Importance
Objective 10 - Define the Voice of the Customer (VOC) and Explain Its Importance

Segment 3 - Six Sigma Projects

Objective 11 - Describe How to Identify and Select a Project
Objective 12 - Describe How to Determine If Lean Six Sigma or DMAIC Is Needed for a Given Project
Objective 13 - Describe the Theory of Constraints

Segment 4 - Processes Similar to Six Sigma

Objective 14 - Define Design for Six Sigma (DFSS)
Objective 15 - Define Identify, Design, Optimize, and Verify (IDOV)

14. Project Management & Customer Determination

Segment 1 - Launching a Project

Objective 1 - Define the Cost of Poor Quality (COPQ)
Objective 2 - Describe the Steps of the Define Phase of a Six Sigma Project
Objective 3 - Describe the Elements of a Six Sigma Project Charter
Objective 4 - Describe How to Define the Scope of a Six Sigma Project
Objective 5 - Describe the Work Breakdown Structure and How It Is Used to Manage Project Scope
Objective 6 - Define Project Process Owners and Stakeholders
Objective 7 - Identify Process Owners and Stakeholders for a Project

Segment 2 - Customer Value & Expectations

Objective 8 - Identify the Customers for a Product
Objective 9 - Describe the Dimensions of Customer Value (CQFA)
Objective 10 - Describe Methods of Collecting Customer Information for a Project
Objective 11 - Explain Why a Company Should Do a Customer Needs Analysis

Segment 3 - Requirement Analysis

Objective 12 - Define Quality Function Deployment (QFD)
Objective 13 - Describe How to Use the House of Quality to Analyze Customer Needs
Objective 14 - Describe How to Use a Cause and Effect Matrix to Analyze Customer Needs
Objective 15 - Describe How to Use a Perceptual Map to Analyze Customer Needs
Objective 16 - Describe How to Use a Critical to Quality (CTQ) Tree to Analyze Customer Requirements
Objective 17 - Describe Key Features of a Good Survey

Segment 4 - Common Metrics

Objective 18 - Define the Primary and Consequential Metrics
Objective 19 - Define Key Performance Indicator (KPI)
Objective 20 - Define Rolled Throughput Yield (RTY) and Explain Its Importance
Objective 21 - Define Defects per Unit (DPU)

Segment 5 - Related Management Tools

Objective 22 - Describe the Seven Management and Planning Tools
Objective 23 - Describe the Documentation Created for a Six Sigma Project
Objective 24 - Describe Six Sigma Project Risk Analysis and Management
Objective 25 - Define Business Process Management and Explain Its Impact

15. Team Development and Management

Segment 1 - Team Dynamics

Objective 1 - Define a Team and Explain Its Importance in the Workplace
Objective 2 - Describe Types of Teams and Give an Application of Each
Objective 3 - Describe the Characteristics of a Successful Team
Objective 4 - Describe the Characteristics of a Successful Six Sigma Team
Objective 5 - Describe Positive and Negative Team Member Behaviors

Segment 2 - Six Sigma Teams
Objective 6 - Describe the Basic Structure of a Six Sigma Team
Objective 7 - Describe the Roles in a Six Sigma Process (Program)
Objective 8 - Explain How a Six Sigma Team Is Created
Objective 9 - Describe Tasks a Six Sigma Team Must Do after Being Formed
Segment 3 - Team Activity
Objective 10 - Describe How to Conduct a Six Sigma Team Meeting
Objective 11 - Describe Decision-Making Procedures and Give an Advantage of Each
Objective 12 - Describe How a Team Reaches an Agreement through Consensus
Objective 13 - Describe Interpersonal Communications Techniques
Objective 14 - Describe How to Manage Conflict

16. Measurement

Segment 1 - Measurement Overview
Objective 1 - Describe the Measure Phase of a Six Sigma Project
Objective 2 - Describe the Tools Used to Model a Process for a Six Sigma Project
Objective 3 - Describe How to Perform an FMEA for a Six Sigma Project
Segment 2 - Data Collection
Objective 4 - Describe Types of Data Collected for a Six Sigma Project
Objective 5 - Describe Types of Measurement Scales Used for a Six Sigma Project
Objective 6 - Describe Guidelines for Collecting Data in a Six Sigma Project
Objective 7 - Describe the Basic Statistics Used in a Six Sigma Project
Objective 8 - Describe Graphical Methods for Displaying Data Collected in a Six Sigma Project
Segment 3 - Normal Distribution and Probability
Objective 9 - Describe a Normal Distribution and Its Importance to Data Collection and Analysis
Objective 10 - Describe Probability and How It Is Applied to Six Sigma Projects
Objective 11 - Describe the Tools Used to Determine Multiple Event Probability
Segment 4 - Measurement System Analysis
Objective 12 - Define the Elements of an Effective Measurement System
Objective 13 - Define Types of Measurement System Error
Objective 14 - Describe the Two Most Common Ways to Perform a Measurement System Analysis
Segment 5 - Process Capability
Objective 15 - Describe Process Capability and Process Performance
Objective 16 - Describe How to Conduct Process Capability Studies
Objective 17 - Define the Concept of Shift and Drift and Explain Its Importance

17. Analysis

Segment 1 - Analysis Overview
Objective 1 - Describe the Analysis Phase of a Six Sigma Project
Objective 2 - Define Descriptive (Exploratory) Analysis
Objective 3 - Define Hypothesis Testing
Segment 2 - Multivariate Analysis
Objective 4 - Define Regression Analysis and Its Applications
Objective 5 - Describe Multivariate Analysis and Its Applications
Objective 6 - Describe How to Use the Method of Least Square to Perform a Regression Analysis
Segment 3 - Hypothesis Testing
Objective 7 - Describe the Basic Concepts of Hypothesis Testing
Objective 8 - Describe How to Determine the Statistical Significance (P-Value) of a Set of Data
Objective 9 - Determine Appropriate Sample Sizes for a Significance Test
Objective 10 - Describe a Hypothesis Test for Means, Variation, and Proportions
Objective 11 - Describe Hypothesis Test for Comparing Two Samples
Objective 12 - Interpret the Results of One-Way and Two-Way ANOVAs
Segment 4 - Non-Parametric Analysis
Objective 13 - Describe Non-Parametric Analysis
Objective 14 - Define a Chi-Square Test and How to Use It to Analyze Statistical Significance

18. Improvement and Control

Segment 1 - Improve Phase of a Six Sigma Project

Objective 1 - Describe the Goals of the Improve Phase of a Project
Objective 2 - Describe the Major Activities of the Improve Phase of a Project
Objective 3 - Describe the Tools Used to Help Implement and Validate Improvement Ideas

Segment 2 - Design of Experiments

Objective 4 - Describe the Primary Experimental Objectives
Objective 5 - Describe the Steps of a Design of Experiment (DOE)
Objective 6 - Define Basic DOE (Variable, Process, Analysis, and Error) Terms
Objective 7 - Describe Full and Fractional Factorial Experimental Design
Objective 8 - Describe Three Specialized Experimental Designs

Segment 3 - Process/Product Improvement

Objective 9 - Describe How to Use F-Test and T-Test to Validate Solutions
Objective 10 - Describe How Statistical Process Control Can Be Used to Maintain Process Improvements
Objective 11 - Describe How to Select a Control Chart to Monitor a Process

Segment 4 - Control Phases of a Six Sigma Project

Objective 12 - Describe the Goals and Activities of the Control Phase of a Project
Objective 13 - Describe How to Close out a Six Sigma Project
Objective 14 - Describe the Company's Post-Project Activities