

TECH PREP MTAG CURRICULUM

Total Quality Management

Lesson Plan

Time Allotment: 8 Hours
Prepared By: John Imre, John King
Contact: John King (jtking@u.washington.edu)

MODULE DESCRIPTION

This module provides students with a broad introduction to the quality approaches used in manufacturing. Students apply their knowledge during a class simulation in which they interview customers in order to identify and respond to their requirements.

MODULE OBJECTIVE

After completing this module, students should be able to explain the relationship between quality and customer satisfaction and demonstrate an ability to elicit and respond to customer needs and expectations.

MTAG COMPETENCIES INTRODUCED

- A16.2 Communicate with customer to clearly define requirements
- D1.1 Understand goals for quality application
- D3.1 Identify the effects of quality improvement programs.
- D3.2 Demonstrate the ability to apply continuous quality improvement techniques.
- G2.1 Identify the components that comprise customer satisfaction
- I6.1 Identify the responsibilities of a designer, engineer, and technician and their individual roles in developing a product

MANUFACTURING SKILL STANDARDS INTRODUCED (MSSC)

- P5 Manufacturing Process: B. Knowledge of customer requirements.
- P5 Quality: A. Knowledge of quality concepts and how to resolve them in a way that meets business requirements
- P8 Customer Awareness: A. Knowledge of customer quality expectations and other key concerns.
- P8 Quality Process: J. Skill in developing and documenting quality procedures, check lists and methods.

PERFORMANCE CRITERIA

- The student will be able to elicit from the customer clear statements of requirements and specifications and share related documentation throughout the process to assure quality improvement and customer satisfaction.

- The student will be able to identify a variety of goals that need to be achieved and give reasons why the proposed process plan should enable the goals to be achieved.
- After studying the principles and effects of various quality improvement programs, the student will be able to state how these effects may be observed in a manufacturing process.
- After studying customer needs and expectations, the student will be able to discuss eight factors that support customer satisfaction.
- After studying the roles of responsibilities of designers, engineers, and technicians, the student will be able to state the responsibilities of each, how they contribute to a product's development, and why they must communicate with each other.

SEQUENCING

Introduction

Part I: Understanding Quality

Product Quality
 Student Experiences as Customers
 Establishing Quality Criteria
 Skill Check 1

Part II: Approaches to Improving Quality

Inspecting for Quality
 Designing Quality In
 Deming's 14 points
 The Juran Trilogy
 The Costs of Quality
 Customer Focus: External and Internal Customers

Part III: Natural Toys Company Simulation

Introduction
 Determining Responsibilities and Mission
 Identifying Products and Customer Requirements
 Meeting Customer Requirements
 Skill Check 2
 Module Evaluation

SUPPLIES NEEDED

Overhead projector and screen

An assortment of high quality products or pictures of those products (enough for 1 per student)

Chart paper pads – 1 for each table group, 1 for the front of the class

Chart pens, tape for hanging charts to classroom walls

White board (or blackboard) and erasable markers/chalk

INDEX OF INSTRUCTIONAL MATERIALS

Lesson Plan	p.2
Class Curriculum	p.5
Instructor Notes for in class Simulation	p.13
Student Assessment Rubric	p.16
Module Evaluations	p.16
Class Handouts	p.21

RECOMMENDED STUDENT PREREQUISITES

Students should have completed the following modules:

Interpersonal Effectiveness,
Introduction to Manufacturing.