

ISC 131 QUALITY MANAGEMENT

COURSE DESCRIPTION:

Prerequisites: None

Corequisites: None

This course provides a study and analysis of the aspects and implications of quality management that lead to customer satisfaction through continuous quality improvement. Topics include Total Quality Management, ISO 9000, organizing for quality, supplier/vendor relationships, and the role of leadership in quality management. Upon completion, students should be able to demonstrate an understanding of quality management concepts and techniques. Course Hours Per Week: Class, 3. Semester Hours Credit, 3.

COURSE OBJECTIVES:

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

- a. Identify primary differences associated with the three major methods for inspection and testing for quality of output produced.
- b. Describe major advantages and disadvantages of lot-by-lot inspection.
- c. Develop an appropriate sampling plan for an assigned product.
- d. Develop and interpret control charts.
- e. Solve assigned problems relating to probability, reliability and variance.
- f. Describe the impact of quality circles and similar employee involvement programs on quality control.
- g. Identify primary considerations associated with the installation and compliance with specifications set forth by MIL-Std.-105D.
- h. Identify significant gauges and testing devices used to test, determine and verify product quality and reliability.

OUTLINE OF INSTRUCTION:

- I. The impact of foreign and domestic competition
 - A. The detection system
 - B. The prevention system
 - C. Improved quality leads to productivity, sales, competitive position, profitability, and creation of jobs
- II. Inhibitors to quality and productivity
 - A. Inhibitors that are caused by the "system"
 - B. Management plan to eliminate inhibitors

- III. Transformation process model
 - A. Who should be represented on the quality/productivity team
 - B. The transformation process
- IV. Brainstorming
 - A. Criteria from which to evaluate ideas
 - B. Obtaining data
 - C. Selecting a project
- V. The flow chart
 - A. The cause and effect diagram
 - B. The Pereto Chart
 - C. Nominal, ordinal, interval, and ratio data
 - D. Gathering data on a project
- VI. Central location, variability, shape
 - A. Frequency distributions and histograms
 - B. Normal distribution
- VII. Statistical process control
 - A. X-R charts
 - B. Control limits
- VIII. Establishing process control before capability can be assessed
 - A. Normal and non-normal distributions
- IX. The median chart
 - A. Various types of charts

REQUIRED TEXTBOOKS AND MATERIALS:

Student Guide with binder
Transformation of American Industry, PQ Systems

STATEMENT FOR STUDENTS WITH DISABILITIES:

Students who require academic accommodations due to any physical, psychological, or learning disability are encouraged to request assistance from a disability services counselor within the first two weeks of class. Likewise, students who potentially require emergency medical attention due to any chronic health condition are encouraged to disclose this information to a disability services counselor within the first two weeks of class. Counselors can be contacted by calling 686-3652 or by visiting the Student Development Office in the Phail Wynn Jr. Student Services Center, room 1309.