QUALITY IMPROVEMENT
MGT 2160

Class Hours: 3.0  Credit Hours: 3.0
Laboratory Hours: 0.0  Date Revised: Spring 99

NOTE: This course is not designed for transfer credit.

Catalog Course Description:

Introduction to quality management as a system through the application of statistical process control, W. Edwards Deming's management philosophy, and various management techniques.

Entry Level Standards:

The beginning student should be proficient in algebraic reasoning and calculation. The student should be proficient with a calculator, especially the statistical section. The student should be able to read and write at the college level. Most importantly, the student should be able to reason logically.

Prerequisite:

MTH 1010

Corequisite:

MTH 1050

Textbook(s) and Other Reference Materials Basic to the Course:

Textbook:
(Please note that this textbook should have SQC Pack software included.)

Reference Book:
Formats for Business Documents

Other Materials:
A calculator with a statistical section is required for the course. Videotapes from many sources will be used in class. The instructor will assign outside of class, auxiliary reading material appropriate to the course.

I. Week/Unit/Topic Basis:

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<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1-4</td>
<td>Course Introduction; Fundamentals of Quality</td>
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<tr>
<td></td>
<td>*Total Quality</td>
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<tr>
<td></td>
<td>*Team Management</td>
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II. Course Objectives*:

A. Demonstrate an adequate knowledge of W. Edwards Deming's quality concepts. I, II, III, VIII

B. Demonstrate an adequate knowledge of quality control history and current events. I, II

C. Demonstrate an adequate quality control vocabulary. I, II, III

D. Demonstrate an adequate knowledge of quality control evaluative methods. I, II, III

*Roman numerals after course objectives reference goals of the MGT program.
III. Instructional Processes*:

Students will:

1. Practice elements of the work ethic such as professionalism, preparedness, punctuality, honesty, cooperation, dependability, contribution, effectiveness, good manners, etc. 
   *Personal Development Outcome, Cultural Diversity & Social Development Outcome, Transitional Strategy*

2. Calculate homework problems, case studies, etc. using computer software and/or a calculator. 
   *Problem Solving & Decision Making Outcome, Technological Literacy Outcome, Numerical Literacy Outcome*

3. Research and write a report on an organization's Quality Improvement program. 
   *Communication Outcome, Problem Solving & Decision Making Outcome, Information Literacy Outcome, Transitional Strategy, Active Learning Strategy*

*Strategies and outcomes listed after instructional processes reference Pellissippi State’s goals for strengthening general education knowledge and skills, connecting coursework to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.

IV. Expectations for Student Performance*:

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

1. Explain how statistical process control fits in to the quality management system.  A, B

2. Interpret the relationship between quality/productivity and world market competitiveness.  B

3. Evaluate the cost of quality.  A, B, C

4. Describe and analyze W. Edwards Deming's 14 points of management and his quality management philosophy.  A, C

5. Summarize the history of quality control.  A, B, C

6. Summarize the history of team management.  A, B,

7. Evaluate team management.  A, B, C

8. Describe current events in the quality management field. A, B, C

9. Compute and/or construct, analyze, and apply the following evaluative methods: C, D
   a. Flowcharts
   b. Operational Definitions
   c. Cause and Effect Diagrams
   d. Check Sheets
   e. Pareto Diagrams
   f. Histograms
   g. Run Charts
   h. Process mean, range, and standard deviation
   i. P, np, C, and V attribute control charts
   j. X-BAR and R and X-BAR and S variables control charts
   k. Individuals control charts
10. Explain the difference between common and special causes of variation. C, D
11. Describe the Plan, Do, Study, Act continuous improvement cycle. A, C, D
12. Evaluate rational subgrouping schemes. C, D
13. Identify and evaluate process state of control. C, D
14. Contrast specifications and control limits. C, D
15. Evaluate process capability. C, D

*Letters after performance expectations reference the course objectives listed above.

V. Evaluation:

A. Testing Procedures:

   Students are evaluated primarily on the basis of tests. A minimum of 3 major tests is recommended.

B. Laboratory Expectations:

   None

C. Field Work:

   None

D. Other Evaluation Methods:

   Class participation, group work, and home-work will also comprise the final grade for the course. Each instructor must provide full details the first week of class via a syllabus supplement.

E. Grading Scale:

   92 - 100  A
   89 - 91   B+
   82 - 88   B
   79 - 81   C+
   72 - 78   C
   65 - 71   D
   Below 65  F

VI. Policies:

   Attendance Policy:

   Pellissippi State Technical Community College expects students to attend all scheduled instructional activities. As a minimum, students in all courses must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course