I. Course Description:

This is a 3 semester hour course oriented toward the undergraduate student in technology. The quality of products and services directly affects a company's market share, profitability, and reputation for responsibly serving the interests of its customers and the public as a whole. This course will provide coverage of quality control and quality improvement concepts and will emphasize Total Quality Management (TQM), Six Sigma Quality Concepts and the use of statistics to measure the quality of manufacturing and service related processes.

II. Textbooks:


III. Course Objectives:

A. instill within the student the concept of total quality control
B. to develop the statistical process control requirements for a total quality control program.
C. to identify the types and levels of quality control techniques applied to a manufacturing setting.
D. to become proficient in the application of statistical quality control principals.
E. to become proficient in the use of various types of sampling and process control charts.

IV. Statement of Learning Objectives:

By the end of this course, students should be able to:

<table>
<thead>
<tr>
<th>Program Outcomes</th>
<th>TECH 3310</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Make application of quality measurement criteria in their place of employment</td>
<td>X</td>
</tr>
<tr>
<td>B Compare in quality design and function of products and services</td>
<td>X</td>
</tr>
<tr>
<td>C Perform quality improvement graphical problem-solving functions.</td>
<td>X</td>
</tr>
<tr>
<td>D Recognize the need for and implement quality improvement measures in their service industry.</td>
<td>X</td>
</tr>
</tbody>
</table>
V. Course Competencies:

A. Computer-based skills - By use of standard software the student will store and manipulate data and make analysis of data by the presentation of SPC charts and graphs.

B. Communication skills - The student will conduct and write a term project related to quality improvement problem solving and quality control measurement.

C. Interpersonal skills - Students will work in quality improvement teams to experience the use of graphical problem solving techniques.

D. Problem-solving - Each student will interpret SPC charts to determine the status of industrial processes by gathering data, using statistical skills. Through SPC analysis students will use brainstorming techniques to solve problems and improve processes by using the plan-do-check-access cycle.

E. Personal accountability for achievement - Each student will follow the designated suspense dates for course work as listed in the course syllabus.

F. Competence in basic technology principles -
   1. By the study of the major "quality guru's", the student will develop a foundation for the total quality management movement.

VI. Course Requirements:

A. Assignments

1. seven written topic summaries
2. complete assigned outside work (written & computer)
3. complete midterm exam
4. complete final exam
5. complete individual semester paper

B. Grading and Evaluation:

<table>
<thead>
<tr>
<th></th>
<th>Points:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework assignments</td>
<td>210</td>
</tr>
<tr>
<td>Exams (x5)</td>
<td>300</td>
</tr>
<tr>
<td>Topic Summaries (x7)</td>
<td>35</td>
</tr>
<tr>
<td>Project (depending on time)</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>645</td>
</tr>
</tbody>
</table>

*Note: The instructor reserves the right to modify the syllabus. All modifications will be communicated to the students in a timely manner. Grades may be calculated by adding up the total points that you have earned then divided by the total points for the semester. DO NOT GO BY BLACKBOARD’S GRADE
C. Students are required to log on and use Blackboard Learning Management Software at least twice a day to access their electronic gradebook ("tools" and then "my grades"), related course materials and other information that the instructor may post.

D. Suspense Dates:

<table>
<thead>
<tr>
<th>Class Start Date</th>
<th>Mon, Jan, 13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic Summary #1</td>
<td>Wed, Feb 5</td>
</tr>
<tr>
<td>Topic Summary #2</td>
<td>Wed, Feb 19</td>
</tr>
<tr>
<td>Topic Summary #3</td>
<td>Wed, Mar 5</td>
</tr>
<tr>
<td>Topic Summary #4</td>
<td>Wed, Mar 26</td>
</tr>
<tr>
<td>Topic Summary #5</td>
<td>Wed, Apr 9</td>
</tr>
<tr>
<td>Topic Summary #6</td>
<td>Wed, Apr 23</td>
</tr>
<tr>
<td>Topic Summary #7</td>
<td>Wed, May 7</td>
</tr>
<tr>
<td>Homework Assignments</td>
<td>as scheduled</td>
</tr>
<tr>
<td>Individual Semester Paper</td>
<td>Assignment 1</td>
</tr>
<tr>
<td>Study Day</td>
<td>Mon, May 5</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>TBD</td>
</tr>
<tr>
<td>Final Exam</td>
<td>TBD</td>
</tr>
<tr>
<td>Final Exam Week</td>
<td>May 5-10</td>
</tr>
</tbody>
</table>

E. Absolutely no make up course work or exams. Any make up course work or exams due to a student not submitting it is considered on a case by case basis. Which means the professor reserves the right to decline make up course work or exams.

VII. IDEA Statement

If you have a disability, including a learning disability, for which you request disability support services/accommodations(s), please contact Ida MacDonald in the Disability Support Services office so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodation must provide documentation of his/her disability to the Disability Support Services counselor. In order to assure approved services the first week of class, diagnostic, prognostic, and prescriptive information should be received 30 days prior to the beginning of the semester services are requested. For more information, call or visit the Student Services Center located in the University Center, Room 282. The telephone number is 566-7079 (TDD 565-5579). Additional information may also be obtained at the following UT Tyler Web address: http://www.uttyler.edu/disabilityservices.

VIII. Academic Honesty Statement

“Academic dishonesty, such as unauthorized collusion, plagiarism and cheating, as outlined in the Handbook of Operating Procedures, University of Texas at Tyler, will not be
tolerated. University regulations require the instructor to report all suspect cases of academic dishonesty to the Dean of Students for disciplinary action. In the event disciplinary measures are imposed on the student, it becomes part of the student’s official school records.” Also, please note that the handbook obligates you to report all observed cases of academic dishonesty to the instructor.

IX. Grade Replacement Statement

If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to file an intent to use grade forgiveness will result in both the original and repeated grade being used to calculate your overall grade point average. A student will receive grade forgiveness (grade replacement) for only three (undergraduate student) or two (graduate student) course repeats during his/her career at UT Tyler. (2006-2008 Catalogue, p. 35).

X. University Policies Regarding Academic Processes:

The following University policies must appear on each course syllabus or be provided as an informational sheet (web-links to these policies may be used in the print or electronic syllabus) http://www.uttyler.edu/academicaffairs/syllabuspolicies.pdf

Students Rights and Responsibilities
To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link: http://www2.uttyler.edu/wellness/rightsresponsibilities.php

Grade Replacement/Forgiveness and Census Date Policies
Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. Grade Replacement Contracts are available in the Enrollment Services Center or at http://www.uttyler.edu/registrar. Each semester’s Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar. Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract.

The Census Date is the deadline for many forms and enrollment actions that students need to be aware of. These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit.
- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a “W” grade)
- Being reinstated or re-enrolled in classes after being dropped for non-payment
- Completing the process for tuition exemptions or waivers through Financial Aid

State-Mandated Course Drop Policy
Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the census date (See Academic Calendar for the specific date).

Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

Disability Services
In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University offers accommodations to students with learning, physical and/or psychiatric disabilities. If you have a disability, including non-visible disabilities such as chronic diseases, learning disabilities, head injury, PTSD or ADHD, or you have a history of modifications or accommodations in a previous educational environment you are encouraged to contact the Student Accessibility and Resources office and schedule an interview with the Accessibility Case Manager/ADA Coordinator, Cynthia Lowery Staples. If you are unsure if the above criteria applies to you, but have questions or concerns please contact the SAR office. For more information or to set up an appointment please visit the SAR office located in the University Center, Room 3150 or call 903.566.7079. You may also send an email to cstaples@uttyler.edu

Student Absence due to Religious Observance
Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

Student Absence for University-Sponsored Events and Activities
If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

Social Security and FERPA Statement:
It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

Emergency Exits and Evacuation:
Everyone is required to exit the building when a fire alarm goes off. Follow your instructor’s directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services

XI. Topic Summaries:

Directions: Write article summaries from the following topics listed below (other topics may be approved per the professor’s discretion). These articles should be taken from recent periodicals, not handbooks or textbooks. Each summary shall be one (1) page in length. Each summary must come from a separate periodical of a different titled
publication. The articles you choose to review must have relevance to principles of Total Quality Management and reflect current trends in the quality movement. **SEE EXAMPLE ON LAST PAGE.**

Below is a list of the topics that may be chosen for your topic summaries:

1. just-in-time production technology
2. quality circles, teams, or work groups
3. supplier quality and certification programs
4. process capability studies and applications
5. quality in design
6. integrating quality control into manufacturing
7. KANBAN
8. statistical process control charts and applications
9. integrating quality control into the service industry
10. budget control of quality
11. quality service
12. total quality management
13. quality function deployment
14. process control studies
15. employee empowerment and management
16. Six Sigma Quality
17. Benchmarking Processes
18. Supply Chain Management
19. Five S’s (5 Ss’)
20. Material requirements planning
21. Kaizen
22. Six Sigma

**Note: The instructor reserves the right to modify the syllabus. All modifications will be communicated to the students in a timely manner.**

The author believes active suspension will replace springs and shocks with a computer and high-speed hydraulics. The primary benefit of the system is to isolate one suspension characteristic from another. Essentially, MacPherson struts are replaced with hydraulic struts which can react within 3/1000 second, and can cycle up to 1500 times/minute. A computer responds to tiny changes in body and wheel movement by controlling double-acting struts. As well as sensing bumps, the system reads the forces acting on the car body preventing it from banking to the outside of a curve. The idea of active suspension is credited to Britain's great interest in its application. American auto manufacturers have characterized the system as expensive, noisy, and consuming power, however, it may appear on some "expensive" U.S. automobiles.

*Reaction*

This article had good appeal for automobile enthusiasts who want to keep abreast of the latest technology. The reporting of this innovative suspension system was very consistent and well documented through interviews. Several pictures of the system components were shown as well as a pictorial schematic of the complete suspension system. Upon reading this article, anyone would have a good working knowledge of the computer controlled suspension.

Note: Margins are to be set at the following dimensions:

- Left = 1.25”
- Right = 1.00”
- Top = 1.00”
- Bottom = 1.00”