Course Title: Quality Engineering

Course Number: Industrial Technology 407

Course Credit Hours: 3 hours

Class Meetings: 8:00 to 9:15 a.m., Monday & Wednesday

Prerequisites: Senior standing and Math 241 or instructor's consent.

Course Description:
The fundamentals of Six Sigma and how to use its tools and techniques to improve customer satisfaction and business performance. Key topics include: leadership and strategic planning; creating a customer focus; quality function deployment; teams and teamwork; DMAIC problem-solving; measures and metrics; project management; statistical methods; control charts; design of experiments; reliability; failure modes and effects analysis; and lean manufacturing

Course Text:

Course Objectives:
1. Define quality and describe the value of a continuous quality improvement program to an organization.
2. Discuss the importance of leadership and strategic planning in a quality improvement program.
3. Understand the role of teams and teamwork in meeting a customer-focused organization.
4. Instill the concept that the successful quality program is contingent on every person in the organization working together to improve quality.
5. Review and practice the principal concepts of project management.
6. Apply basic statistical methods and use control charts for quality improvement.
7. Design quality improvement experiments.
8. Discuss reliability, failure modes and effects analysis.
9. Describe and list the advantages of lean manufacturing.
10. Apply the information learned to solve real (or simulated) quality-related problems.
11. Use a problem-solving approach to help qualify the students for Green-Belt certification.

Course Requirements: The student should:
1. read assigned sections in the text and be prepared for class.
2. be prepared for unannounced quizzes.
3. adequately study for tests and the final exam.
4. devote the time to complete assignments on time, in a professional manner.
5. arrive on time and stay for the entire class.
6. attend class (more than 2 unexcused absences will diminish your grade)
7. become involved in the class and participate in discussions

Special Provisions
Programs and services are available for students with disabilities. If you feel that you would benefit from these services, it is your responsibility to self-identify through the Office of Student Life, located in room 203 of the Student Union.

Attendance Policy:
"... all students are expected to attend regularly and punctually all classes in which they are enrolled. Failure to do so may jeopardize a student’s scholastic standing and may lead to suspension from the university... A student doesn’t withdraw from class by failing to attend" (pg. 67 of the 2008-2009 catalog)

YOU are responsible for dropping this class, you will not be dropped automatically!

This is an interactive, problem-based class, therefore your presence for the entire class is essential. Students with more than two unexcused absences will not be afforded the opportunity to do extra credit work.

Policy on Make-Up Work:
A student with an unexcused absence may not make up missed work. A grade of zero will be recorded for work missed during the absence. A student with an excused absence has one week after returning to class to make up work missed to earn the full credit.

Class Decorum:
Free discussion, inquiry and expression is encouraged in this class. The experiences of all students can be beneficial if they can be intertwined within the course content. However, classroom behavior that interferes with either a) the instructor’s ability to conduct the class or b) the ability of students to benefit from the instruction will not be tolerated. Turn off pagers and cell phones, unless needed for an emergency call (then set to vibrate mode).
Evaluation & Assessment:
The final letter-grade you receive in this course is my verification or assessment of the degree of functional mastery you have achieved.

Your Job
Demonstrate (to me) that you have a functional mastery of the facts and concepts of this course by actively participating in class discussions and activities; asking and answering questions asked of you; being prepared for class; completing all assignments on time in a professional manner; studying for and doing well on all quizzes, tests and assignments.

My Job
To provide you opportunities to demonstrate your functional mastery of the facts and concepts contained in this course, and based on your performance, assess your level of mastery.

It is my responsibility to: organize and present the material in ways that effectively communicate the facts and concepts, answer your questions (in and out of class), be available to clarify points of confusion and to challenge you, so you can stretch you limits of learning.

A - Demonstrated mastery of all the course concepts and info
B - Demonstrate mastery of most of the concepts and info.
C - Demonstrated minimal mastery
D - Demonstrated somewhat unacceptable level of mastery
F - Completely failed to demonstrate a grasp of the course concepts & information.

Basis for Assigning Grades:  Departmental Grading Scale:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
<th>Grade Range</th>
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<tbody>
<tr>
<td>Objective tests</td>
<td>60%</td>
<td>93%-100% = A</td>
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<tr>
<td>Final exam</td>
<td>15%</td>
<td>85% - 92% = B</td>
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<tr>
<td>Quizzes</td>
<td>10%</td>
<td>77% - 84% = C</td>
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<tr>
<td>Assignments/Attendance</td>
<td>15%</td>
<td>69% - 76% = D</td>
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<tr>
<td></td>
<td>100%</td>
<td>Below 69% = F</td>
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Important Dates:
August 20 . . . . . . . First day of class
September 1 . . . . . Labor Day Holiday
October 2-3 . . . . . . Fall Break
October 24 . . . . . . Last day to withdraw or resign
November 3-14 . . . Advising for Priority Registration
November 17-21 . . . Priority Registration - Spring 2009
November 18-22 . . . NAIT Conference
November 26-28 . . . Thanksgiving Holiday
December 5 . . . . . . Last Day of class