Syllabus

I. Course Number: TEC 5133

II. Title: Total Quality Systems

III. Credit: 3-0-3

IV. Course description: Study of principles, practices, tools, techniques and systems for total quality management in industrial or service organizations.

V. Objectives of the Course:

1. Define total quality management.
2. Identify the principles of total quality management.
3. Describe the practices of total quality management.
4. Assess the tools and techniques of total quality management.
5. Summarize contemporary systems standards for total quality management.
6. Design and develop a total quality system.
7. Demonstrate problem solving skills dealing with total quality management.
8. Project leadership skills dealing with total quality management.
9. Write a research paper relevant to total quality principles and/or practices.
10. Facilitate a discussion on quality tools or practices.
11. Appraise teamwork principles and practices including communication.


VII. Outline of the Course: (Share the Vision, Share the Responsibility)

A. Class Discussion (Instructor facilitated):
   1. Introduction to Total Quality (Ch 1 & 2) 1
   2. Leadership and Management Commitment (Ch 3 & 9) 1
   3. Focus on Customers (Ch 7) 1
   4. Employee Empowerment and Quality Culture (Ch 6 & 8) 1
   5. Supplier Partnership (Ch 5) 1
   6. Continuous Process Improvement (Ch 19 & 22) 1

B. Class Discussion (Team facilitated)
   1. Team Building and Teamwork 1
   2. Education and Training 1
   3. Quality Management Systems and Standards 1
4. Quality Function Deployment (QFD)  
5. Failure Mode and Effect Analysis (FMEA)  
6. Total Productive Maintenance (TPM)  
7. Benchmarking  
8. Six Sigma and Lean Operations

Optional Topics:

1. Statistical Process Control (SPC)  
2. Problem Solving for Total Quality  
3. Just In Time (JIT) Manufacturing  
4. Effective Communication for Total Quality  
5. Ethics and Corporate Social Responsibility  
6. Others (Please discuss with the instructor.)

C. Development of Total Quality System (Team Project)

D. Research Paper (on topic different from the team assignment)

E. Presentation on Team Project

VIII. Instructor:  
Peter Ping Liu, Ph D, PE, OCP, CQE and CSTM
Professor
School of Technology  
(217)581-6267 (office and voice mail)  
Email: pliu@eiu.edu
Office: 4032 (304 D) Klehm Hall  
11:00 AM-11:50 PM, M through F  
(Please knock my office door if it is closed.)

IX. Approaches and Policy:

1. The course will practice the principles of total quality management systems, emphasizing teamwork and TOTAL involvement. Class participation is required for every meeting. Pre-approval is required for any excuses.

2. Class exercises (of varying format) will be given at proper time. There will be no make-up on the missed class exercises for non-emergency-related absence.

For excused absence, students are responsible for discussing with the instructor immediately to make arrangements of making up. Three (3) weeks after the missed class, the student will no longer has the opportunity to make anything up.
Generally, students are required to submit a satisfactory content summary on the missed chapter (2 page minimum), a briefing to the entire class (within 5 minutes) and 25 push ups. **No make up will be given for missed presentations especially team work!!**

3. Students will learn through discussions and interactions. There will be no formal lecture for this class. During the first part of the semester, the instructor will facilitate the discussion. On the second half of the semester, each team will facilitate and lead the discussion.

4. Teams will be organized at the first meeting of the semester.

5. Each team will be assigned to research on a specific subject on total quality management systems. **Extensive research beyond the textbook is required.**

6. Each team will lead or facilitate the discussion for one whole class period on the above assigned subject. The instructor will facilitate further discussion after the team, if time permits.

7. Each individual student will write a research paper on a subject DIFFERENT from the team topic. The paper is based upon the research findings by individual students. Please note that the writing is the responsibility of individual student.

8. Please discuss with the instructor about your topic as soon as possible since there will be no duplicated topic in the whole class.

9. Each team will develop a total quality management system (manual) for a specific company or operation of team’s choice. Please see the details under the project of total quality system development.

10. **Team Work:**
a. Team work requires us to share our team vision, mission, achievements, glory, joy, and responsibility. To facilitate the collaboration and responsibility sharing within each team, a team statement is **required** for each team work submission, with a sample as follows:

    **We, as a team, acknowledge that for the work is a result of contributions from each member of team, with the following proportion:**

    - **John Doe** 10%
    - **Jean Cub** 25%
    - **Chris Sow** 50%
    - **Katie Queen** 15%

    The above is a sample statement. You may change the name and proportions according
to your team. Grade will be reduced by 10% if a statement is not included in each submission.

b. There will be a peer evaluation at the end of the semester. The evaluation guidelines are available at the course web site.

c. To work as a team for the entire class, each student will have an opportunity to serve as a class sister/brother to provide some energizing activity at the beginning of each meeting.

11. **Policy on assignments:**
   - All assignments are submitted in a Microsoft Word file format. **Please submit only one file each time. Remove any extra file(s) on your submission in “D2L EIU Online”**.
   - The system will NOT allow late submission.
   - Any assignment is due before the beginning of the class (6:00 PM) on the specified date. Twenty five (25) points will be taken off each day after the due time if late submission is approved by the instructor.
   - In order for each student to receive your own grade, each student needs to submit your work under your own user name in “D2L EIU Online”, even for team project assignments.
   - **The team statement is required for each team submission including the first assignment.**

12. **Ethics and Academic Integrity:**

It is important that our students become ethical leaders in the technological field. Please note this is the most important issue in graduate education. (Please consult the Graduate Catalog for detailed regulations by the university.)

- **Copy Of Web Sources:**
  Direct copy (including retyping) is considered as plagiarism, if selections are not cited correctly. You will be required to conduct literature reviews as a part of your graduate study. When you write your report, summarize your findings or appropriately cite your materials. Direct quotes should only be used for emphasis and should be a small portion of the entire paper.

- **Citing References in Your Paper:**
  Even when you summarize your findings you need to cite the source for your materials. We cannot mislead readers to any impression that the work is only yours when in reality it is the work of others.

To help students prevent copying problems, it is recommended that students submit their
papers (including mid term test, research paper, and final exam) to
http://www.turnitin.com/static/index.html for checking. You will need to create a new student account on the web site. The course ID is 3161183 and password is: student.

Please note: Only submit your paper to turnitin.com ONCE. The web site will keep your file in its database, even after you “delete” it from your account. This may cause panic on some students.

Policy on Plagiarism: If a paper was found having 20% (or more) direct copy and paste from other sources other than student’s own writing, the paper will be downgraded to “0.” If two students were found copying from each other, both papers will be downgraded to “0.”


X. Total quality system development project (See the separate guideline file for more details):

Each team will develop a systematic total quality system (manual) for a specific company or operation. Major tasks will include the following:

1. Identify an organization or an operation, preferably a comprehensive company involved marketing, research and development, design, procurement, productions, sales, and customer services.
2. Develop an organizational chart to demonstrate your understanding on leadership and management commitment of quality in the organization.
3. Develop vision and mission statements for the organization.
4. Develop guiding principles for the organization.
5. Develop standard operation procedure (SOP) for three departments.
6. Presentation of quality systems and manual.

At every step of the development project, each team will be required to submit a report for the step through “D2L EIU Online”. Grade will be given for each step. Late submission will not be permitted by the system. Twenty five percent (25%) will be taken off each day after the due time even if late submission was approved by the instructor.

At the end of the semester, each team is expected to submit a total quality system manual though “D2L EIU Online”. Another grade will be given based upon the overall quality of the manual.

XI. Evaluation of students achievements:
A total score for each student will be computed based upon the following proportions:
Class exercise and participation 15%
Team-facilitated discussion 10%
Research paper 10%
Team work on quality system development 10%
Peer evaluation and responsibility sharing 10%
Quality system manual by team work 15%
Presentation on total quality system 10%
Mid term test 10%
Final exam 10%

Performance evaluation on grade is based on the total score in the class:

<table>
<thead>
<tr>
<th>Total Range</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;= 90</td>
<td>A</td>
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<tr>
<td>80 &lt;= Total &lt; 90</td>
<td>B</td>
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<tr>
<td>70 &lt;= Total &lt; 80</td>
<td>C</td>
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<tr>
<td>60 &lt;= Total &lt; 70</td>
<td>D</td>
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<tr>
<td>Total &lt; 60</td>
<td>F</td>
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</tbody>
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XII. ADA statement: If you have a documented disability and wish to receive academic accommodations, please contact the Coordinator of the Office of Disability Services (581-6583) as soon as possible.

XIII. Policy on Cell Phone Use in Classroom:

Leave your cell phone on “vibrate” mode. Please answer your non-emergency calls outside the classroom.

XIV. Emergency Announcement:

This following web page will be used to make emergency announcements for the course when “D2L EIU Online” is not available. Please bookmark this page on your browser.

The link is: http://www.eiu.edu/~pingliu/tec5133/Announcement/tec5133announcement.html

In case of inclement weather or other cancellations, the instructor will make announcement on WebCT and the above page.

XV. Course Link
http://www.eiu.edu/~pingliu/tec5133/

You may want to bookmark the above link just in case WebCT is not working.
### XV. Course Schedule (Fall 2012) (Subject to Change)

<table>
<thead>
<tr>
<th>Week/Class</th>
<th>Content</th>
<th>Required Reading (Textbook)</th>
<th>Tasks to Complete (Possible Points)</th>
<th>Due Date (6:00 PM)</th>
<th>Class Sister/Brother</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Instructor facilitated: Introduction to Total Quality Management</td>
<td>Chapter 1 &amp; 2</td>
<td></td>
<td>08/22</td>
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<tr>
<td>2</td>
<td>Instructor facilitated: Leadership and Management Commitment</td>
<td>Chapter 3 &amp; 9</td>
<td>Organize teams. Assign research topic for team-led discussion. (5) Submission: A MS WORD file containing team members’ names and title of the assigned chapter. <strong>Team statement is required for every team submission.</strong></td>
<td>08/29</td>
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<tr>
<td>3</td>
<td>Instructor facilitated: Focus on Customer Satisfaction</td>
<td>Chapter 7</td>
<td>Identify an organization or operation (10) Submission: A MS WORD file containing name of the organization and brief description of the operations. <strong>Team statement is required for every team submission.</strong></td>
<td>09/05</td>
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<tr>
<td>4</td>
<td>Instructor facilitated: Employee Motivation and Empowerment</td>
<td>Chapter 6 &amp; 8</td>
<td>Develop an organizational chart. (10) Submission: A MS WORD file.</td>
<td>09/12</td>
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<tr>
<td>5</td>
<td>Instructor facilitated: Supplier Partnership</td>
<td>Chapter 5</td>
<td>Develop vision and mission statements for the organization (15) Submission: A MS WORD file.</td>
<td>09/19</td>
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<td>6</td>
<td>Instructor facilitated: Continuous Process Improvement</td>
<td>Chapter 19 &amp; 22</td>
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<td>09/26</td>
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<td>7</td>
<td>Team-facilitated: (Team 1: Team Building and Team Work)</td>
<td>Team topic</td>
<td>Develop guiding principles for the organizations. (30) Submission: A MS WORD file.</td>
<td>10/03</td>
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<td>8</td>
<td>Team-facilitated: (Team 2: Education and Training)</td>
<td>Team topic</td>
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<td>10/10</td>
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<td>9</td>
<td>Team-facilitated: (Team 3: Quality Management Systems)</td>
<td>Team topic</td>
<td>Develop standard operation procedure (SOP) the at least three departments.(30) Submission: A MS WORD file.</td>
<td>10/17</td>
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<td>10</td>
<td><strong>Mid Term Test</strong> (It will include the topics covered by the instructor.)</td>
<td>6:00 – 8:30 PM</td>
<td>10/24</td>
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<td>11</td>
<td>Team-facilitated: (Team 4: Quality Function Deployment)</td>
<td>Team topic</td>
<td>Quality system manual for each team. (100)</td>
<td>10/31</td>
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<td>Submission: A MS WORD file.</td>
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<td>12</td>
<td>Team-facilitated: (Team 5: Failure Mode and Effect Analysis)</td>
<td>Team topic</td>
<td>Research paper due</td>
<td>11/07</td>
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<td>13</td>
<td>Team-facilitated: (Team 6: Total Productive Maintenance)</td>
<td>Team Topic</td>
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<td>11/14</td>
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<td>Thanksgiving Break (Eat As Much Turkey As You Can.)</td>
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<td>14</td>
<td>Team-facilitated: (Team 7: Benchmarking)</td>
<td>Team Topic</td>
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<td>11/30</td>
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<tr>
<td>15</td>
<td>Team Presentation: Quality System Development: Experience and Insights</td>
<td>Peer evaluation using web interface. (Login will be given)</td>
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<td>12/07</td>
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<td>Final Exam</td>
<td>Final exam includes all team topics.</td>
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<td>12/12(tentative)</td>
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