

## 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.

**VI. Textbook:** David L. Goetsch and Stanley B. Davis, *Quality Management for Organizational Excellence: Introduction to Total Quality* (6th edition), Prentice-Hall: NJ, 2010.

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

A. Class Discussion (Instructor facilitated):	Week
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

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| 4. Quality Function Deployment (QFD)       | 1 |
| 5. Failure Mode and Effect Analysis (FMEA) | 1 |
| 6. Total Productive Maintenance (TPM)      | 1 |
| 7. Benchmarking                            | 1 |
| 8. Six Sigma and Lean Operations           | 1 |

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

C. Development of Total Quality System (Team Project)

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

E. Presentation on Team Project 1

**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:**

<b>John Doe</b>	<b>10%</b>
<b>Jean Cub</b>	<b>25%</b>
<b>Chris Sow</b>	<b>50%</b>
<b>Katie Queen</b>	<b>15%</b>

The above is a sample statement. You may change the name and proportions according