COURSE TOPICS:
This course focuses on the essence, principles, and practices of total quality management (TQM). Some of the ideas and topics that are covered are: process focus; service quality; customer satisfaction; process control and capability; inspection; economics of quality; report cards; and organizational learning.

COURSE PREREQUISITE:
For business majors, Operations Management 335 (or Management 335 or Management Science 335) or Operations Management 335H (or Management 335H or Management Science 335H) with a grade of at least C; for others, admission to an appropriate major sequence in engineering.

COURSE LEARNING OBJECTIVES:
By the end of this course, you should have gained an improved understanding of:
- what quality is as viewed from a variety of perspectives;
- the foundational elements of total quality management;
- the organizational, competitive and economic potential of quality.
and acquired the skills to
- analyze a process to uncover improvement opportunities;
- determine if a process is in control and its capability;
- articulate a business case for investment in quality.

LEARNING MATERIALS:
The Memory Jogger II by Brassard and Ritter

A readings packet containing all the readings and cases is available from the University Co-op Custom Publishing. A class companion packet containing some materials we shall use in class is available from the GSB Copy Center (GSB 3.136). Please remember to bring the class companion packet to class starting with Session 2.

PERFORMANCE EVALUATION:
Class Participation 20%
Case Reports (Five) 10%
Team Presentation – Round 1 (October 14, 16) 10%
Team Presentation – Round 2 (November 18, 20) 10%
Homework (due on October 21; described under Session 13) 10%
Exam 1 (October 9, 7:30-10:00 PM) – covers Sessions 1-9 20%
Exam 2 (November 13, 7:30-10:00 PM) – covers Sessions 1-19 20%
Total 100%

Case Reports: At the beginning of every class session in which a case report is due, please turn in a typed report, not to exceed 1 double-spaced page, which addresses the case discussion questions listed for that session in the detailed schedule. The report should not have any attachments. No late
report will be accepted. These reports will not be returned to you, so please keep a copy for yourself. In preparing the case reports, you are free to work with others in this class, and should you choose, you may submit a group report. But whatever bears your name must have your substantive input. Only the top five case report grades will count toward your course grade.

Class Participation: This, most important component of your course grade, is essentially a measure of how actively you are engaged in class proceedings, and what you contribute to the learning of others. Class attendance is an essential component of class participation.

Team Presentations: Your team will make two oral presentations to the class, of approximately 10 minutes duration each, on topics assigned to you. The presentations are scheduled for October 14, October 16, November 18, and November 20. Please form your own team (5 members) by Session 2.

McCombs Classroom Professionalism Policy
• Students arrive on time. On time arrival shows respect for both fellow students and faculty and it enhances learning by reducing avoidable distractions.
• Students display their name cards. This permits fellow students and faculty to learn names, enhancing opportunities for community building and evaluation of in-class contributions.
• Students minimize unscheduled personal breaks. The learning environment improves when disruptions are limited.
• Students are prepared for each class. Unprepared students cannot contribute to the overall learning process. This affects not only the individual, but their peers who count on them, as well.
• Students do not speak unless they are speaking to the entire class. Do not engage in private conversations, however short or innocuous, while the class is in progress. They are disruptive and discourteous to the speaker. Raise your hand if you have a question or comment.
• Laptops are closed and put away and phones and wireless devices are turned off.

Academic Dishonesty
The McCombs School of Business has no tolerance for acts of scholastic dishonesty. The responsibilities of both students and faculty with regard to scholastic dishonesty are described in detail in the BBA Program’s Statement on Scholastic Dishonesty at http://www.mccombs.utexas.edu/BBA/Code-of-Ethics.aspx. By teaching this course, I have agreed to observe all of the faculty responsibilities described in that document. By enrolling in this class, you have agreed to observe all of the student responsibilities described in that document. If the application of that Policy Statement to this class and its assignments is unclear in any way, it is your responsibility to ask me for clarification. Policy on Scholastic Dishonesty: Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. You should refer to the Student Judicial Services website at http://deanofstudents.utexas.edu/sjs/ or the General Information Catalog to access the official University policies and procedures on scholastic dishonesty as well as further elaboration on what constitutes scholastic dishonesty.

A fundamental principle for any educational institution, academic integrity is highly valued and seriously regarded at The University of Texas at Austin. More specifically, you and other students are expected to maintain absolute integrity and a high standard of individual honor in scholastic work undertaken at the University. This is a very basic expectation that is further reinforced by the University’s Honor Code. At a minimum, you should complete any assignments, exams, and other scholastic endeavors with the utmost honesty, which requires you to:

• acknowledge the contributions of other sources to your scholastic efforts;
• complete your assignments independently unless expressly authorized to seek or obtain assistance in preparing them;
• follow instructions for assignments and exams, and observe the standards of your academic discipline; and
• avoid engaging in any form of academic dishonesty on behalf of yourself or another student.

For the official policies on academic integrity and scholastic dishonesty, please refer to Chapter 11 of the Institutional Rules on Student Services and Activities.

Honor Code
The core values of the University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the University is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community. (Link to University Honor Code: http://registrar.utexas.edu/catalogs/gi09-10/ch01/index.html).

Class Web Sites and student Privacy
Password-protected class sites will be available for all accredited courses taught at The University. Syllabi, handouts, assignments and other resources are types of information that may be available within these sites. Site activities could include exchanging e-mail, engaging in class discussions and chats, and exchanging files. In addition, class e-mail rosters will be a component of the sites. Students who do not want their names included in these electronic class rosters must restrict their directory information in the Office of the Registrar, Main Building, Room 1. For information on FERPA related issues see http://registrar.utexas.edu/students/records/ferpa/.

Students with Disabilities
The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. For more information, contact the Office of the Dean of Students at 471-6259, 471-4641 TTY.

Religious Holidays
By UT Austin policy, you must notify me of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, you will be given an opportunity to complete the missed work within a reasonable time after the absence.

Campus Safety
"Please note the following recommendations regarding emergency evacuation from the Office of Campus Safety and Security, 512-471-5767, http://www.utexas.edu/safety/:

.. Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.
.. Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.
.. Students requiring assistance in evacuation should inform their instructor in writing during the first week of class.
.. In the event of an evacuation, follow the instruction of faculty or class instructors.
.. Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.
.. Behavior Concerns Advice Line (BCAL): 512-232-5050
.. Further information regarding emergency evacuation routes and emergency procedures can be found at: www.utexas.edu/emergency."

3
DETAILED SCHEDULE:

SESSION 1 (W, 8/28) WHAT IS QUALITY?
2. Memory Jogger – Radar Chart

SESSION 2 (W, 9/4) WHAT IS TQM?
Case: Paul Chesler, Director, Quality Assurance
Case Questions:
1. What are the causes of the quality problem on the GreaseX line?
Assignment: Report your team composition & receive your presentation topic

NO CLASS or OFFICE HOURS on Monday, September 9

NO CLASS or OFFICE HOURS on Wednesday, September 11

SESSION 3 (M, 9/16) PROCESS IMPROVEMENT
Readings: 1. Memory Jogger- Brainstorming, Cause & Effect/Fishbone Diagram, Flowchart, Force Field Analysis, Histogram, Nominal Group Technique (and Multivoting), and Pareto Chart
Cases: Florida Power Light (A)
Florida Power Light (B)
Case Questions:
1. Carefully consider the SUI equation: SUI = Frequency x Duration (pages 6-9 of the (A) case). Suppose the following SIRs (Service Interruption Reports) describe the outages experienced in 2012 by a district with a customer base of 10,000:

<table>
<thead>
<tr>
<th>SIR #</th>
<th>Number of customers affected</th>
<th>How long the outage lasted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2,000</td>
<td>10 minutes</td>
</tr>
<tr>
<td>2</td>
<td>8,000</td>
<td>5 minutes</td>
</tr>
<tr>
<td>3</td>
<td>5,000</td>
<td>4 minutes</td>
</tr>
</tbody>
</table>

What was the SUI for the district in 2012? Frequency for the district in 2012? Duration for the district in 2012? Be careful to include the unit of measurement for each.

2. What kind of thinking is promoted by a Pareto chart? By a cause-and-effect diagram?
Assignment: Case Report
### SESSION 4 (W, 9/18)  PROCESS IMPROVEMENT

**Readings:**
1. Memory Jogger - Problem-Solving/Process-Improvement Model: Improvement Storyboard, Run Chart, Scatter Diagram, and Tree Diagram

**Cases:**
Florida Power Light (A)
Florida Power Light (B)

**Case Questions:**
1. Why use a storyboard?
2. Name one adjective that best characterizes FPL’s problem-solving method known as the quality-improvement story (QI Story) shown in Exhibit 2 of the (A) case.
3. What are the characteristics of FPL as an organization? In other words, how is FPL different (say, from Google/Ford/Disney/GE)?

### SESSION 5 (M, 9/23)  PROCESS THINKING IN HEALTHCARE

**Readings:**
1. Memory Jogger - Team Guidelines

**Case:**
Massachusetts General Hospital: CABG Surgery (A)

**Case Questions:**
1. What are the reasons for using CABG as the starting point for care path creation at MGH?
2. For each key stakeholder (surgeons, nurses, administrative staff, and patients) of MGH, identify why there may be resistance to the care path. For each key concern, how should MGH respond?
3. What are the causes of long lengths of stays of CABG patients at MGH?

**Assignment:**
*Case Report*

### SESSION 6 (W, 9/25)  PROCESS THINKING IN HEALTHCARE

**Readings:**
1. “Leveraging Processes for Strategic Advantage”

**Case:**
Massachusetts General Hospital: CABG Surgery (A)

**Case Questions:**
5. If CABG care path is a success at MGH, what are some of the longer-term improvement opportunities that would leverage the CABG success?
6. What caused SmithKline Beecham’s shift to Processes? Xerox’s? Pepsi’s? USAA’s?
SESSION 7 (M, 9/30) SERVICE QUALITY
Case: Singapore Airlines (A)
Case Questions:
1. What are the two or three key elements of SIA's competitive strategy?
2. Evaluate the elements of SIA's cabin-crew-management program (e.g., training program, performance measurement, feedback, and communication procedures).
Assignment: Case Report

SESSION 8 (W, 10/2) SERVICE QUALITY
Case: Singapore Airlines (A)
Case Questions:
2. How does SIA assess service quality?
3. How sustainable is SIA’s strategy?

SESSION 9 (M, 10/7) PROCESS MODEL OF CUSTOMER SATISFACTION

SESSION 10 (W, 10/9) ECONOMICS OF QUALITY
Readings: 1. “Zero Defections: Quality Comes to Services”

Exam 1 on Tuesday, October 9, 7:30-10:00 PM in UTC 3.112, covering Sessions 1-9

SESSION 11 (M, 10/14) TEAM PRESENTATIONS

SESSION 12 (W, 10/16) TEAM PRESENTATIONS
SESSION 13 (M, 10/21)  PROCESS CONTROL & CAPABILITY
Readings:
1. Memory Jogger – Control Charts, Process Capability
Case: Excel Logistics Services
Case Questions:
1. Help Stalk organize the data by preparing a run chart for the receiving area.
2. Prepare appropriate process control charts to see if the receiving process is in control. Is the receiving process in or out of control?
3. Customer service requires that receiving process errors should never exceed 2 percent on any given day. What percentage of the days is likely to exceed 2 percent error, given the current performance in receiving? Assume a total of 8,000 transactions per day, 4,000 in each module.
4. Prioritize the set of actions you would take to ensure that more than 99 percent of the days have less than 2 percent receiving process errors.
Assignment  Homework*
*Answer the first three case questions above for Excel Logistics Services and turn in your written response at the start of the class. This is an individual assignment.

SESSION 14 (W, 10/23)  PROCESS CONTROL & OPTIMAL INSPECTION POLICIES
Readings:
1. “Six Sigma: A Basic Overview”

SESSION 15 (M, 10/28)  OPTIMAL INSPECTION POLICIES

SESSION 16 (W, 10/30)  ORGANIZATIONAL LEARNING
Readings:
1. “Building a Learning Organization”
Case: Analog Devices: The Half-Life System
Case Questions:
1. How is Schneiderman’s half-life effect different from the well-known experience/learning curve effect?
2. What is the role (= primary use) of the half-life method at Analog?
Assignment: Case Report
SESSION 17 (M, 11/4) MEASUREMENT, FEEDBACK, MOTIVATION

SESSION 18 (W, 11/6) SUSTAINABILITY
Case: Herman Miller
Case Questions:
1. Should Herman Miller use PVC or TPU in the Mirra Chair arm pad?
2. What is your assessment of how Herman Miller implemented the C2C protocol?
3. Why did Herman Miller undertake this strategic environmental initiative?
Assignment: Case Report

SESSION 19 (M, 11/11) FOCUS
Case: Shouldice
Case Questions:
1. How good is the Shouldice Hospital (cost, speed, quality)?
2. What is Shouldice’s service concept?
3. What is Shouldice’s target market (both external and internal market segments)?
4. What is Shouldice’s operating strategy?

SESSION 20 (W, 11/13) QUALITY FUNCTION DEPLOYMENT
Readings:
1. “The House of Quality”

Exam 2 on Wednesday, November 13, 7:30-10:00 PM in UTC 3.112, covering Sessions 1-19

SESSION 21 (M, 11/18) TEAM PRESENTATIONS

SESSION 22 (W, 11/20) TEAM PRESENTATIONS
SESSION 23 (M, 12/2)  HEALTH AND SAFETY
Case:  Workplace Safety at Alcoa (A)
Case Questions:
1. What has been and needs to be the half-life of Mission Valley’s safety improvement?
2. As Paul O’Neil, how do you describe what has and has not worked at Mission Valley?
Assignment:  Case Report

SESSION 24 (W, 12/4)  IMPLEMENTING QUALITY
Case:  Workplace Safety at Alcoa (A)  Workplace Safety at Alcoa (B)
Case Questions:
2. As Paul O’Neil, how do you describe what has and has not worked at Mission Valley?
3. What is your evaluation of Linda Merton’s plan for 1992?
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<th>Topic</th>
<th>Case/Exercise</th>
<th>Assignment Due</th>
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<tr>
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<td>W</td>
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<td>What is quality?</td>
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<td>2</td>
<td>W</td>
<td>9/4</td>
<td>What is TQM?</td>
<td>Paul Chesler</td>
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<td>3</td>
<td>M</td>
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<td>Process Improvement</td>
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<td>Process Thinking in Healthcare</td>
<td>Mass General Hospital</td>
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<td>9/30</td>
<td>Service Quality</td>
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<td>9</td>
<td>M</td>
<td>10/7</td>
<td>Process Model of Customer Satisfaction</td>
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<td>10</td>
<td>W</td>
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<td>Economics of Quality</td>
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**EXAM 1**  
**Wednesday, October 9, 7:30-10:00 p.m.** (EXAM 1 covers material from Sessions 1-9)  
Office Hours: 12:30-1:30 p.m., 3:30-5:30 p.m.

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<tr>
<td>11</td>
<td>M</td>
<td>10/14</td>
<td>Team Presentations</td>
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<td>12</td>
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<td>13</td>
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<td>Process Control &amp; Capability</td>
<td>Excel Logistics</td>
<td>Homework</td>
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<td>Optimal Inspection Policies</td>
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<td>15</td>
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<td>Optimal Inspection Policies</td>
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<td>16</td>
<td>W</td>
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<td>Organizational Learning</td>
<td>Analog Devices</td>
<td>Case Report</td>
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<td>17</td>
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<td>Measurement, Feedback, &amp; Motivation</td>
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<td>Herman Miller</td>
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<td>Operational Focus</td>
<td>Shouldice</td>
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<td>20</td>
<td>W</td>
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<td>Quality Function Deployment</td>
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**EXAM 2**  
**Wednesday, November 13, 7:30-10:00 p.m.** (EXAM 2 covers material from Sessions 1-19)  
Office Hours: 12:30-1:30 p.m., 3:30-5:30 p.m.

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<th>Topic</th>
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<td>22</td>
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<td>M</td>
<td>12/2</td>
<td>Health and Safety</td>
<td>Alcoa (A)</td>
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<td>Implementing Quality</td>
<td>Alcoa (A) &amp; (B)</td>
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**PLEASE Note**

1. No office hours on NO CLASS days (Sep. 9, Sep. 11, Nov. 25, and Nov. 27).
2. Evening exams on October 9 and November 13.
3. Extra office hours on October 9 and November 13.