Cambridge College
New England Institute of Business

Course Syllabus

QSM210: Fundamentals of Quality Systems Management

Syllabus Overview

This syllabus contains all relevant information about the course: its objectives and outcomes, the grading criteria, the texts and other materials of instruction, and weekly topics, outcomes, assignments, and due dates. Consider this your roadmap for the course. Please read through the syllabus carefully and ask questions if you would like anything clarified. Please print a copy of this syllabus for reference.

Course Description

3 Credits

Prerequisite: None

Product and service quality is a key competitive element in today's global economy. Whether an organization is public, private, for profit, or not for profit, quality management tools and techniques are a necessity. QSM 210 provides an introduction to quality principles, quality management systems, and the latest in product and process improvement tools and techniques. This course also introduces Lean Thinking and the Six Sigma DMAIC (Define, Measure, Analyze, Improve, and Control) process improvement methodology.

Course Outcomes

At the completion of this course, students should be able to:

- Explain the core principles of quality management, Total Quality Management (TQM), and continuous improvement.
- Articulate the role of quality management on the overall performance of an organization.
- Describe key contributions, including significant quality leaders, to Quality Management.
- Apply quality tools and techniques to define, analyze, and resolve quality problems.
- Apply the Plan-Do-Check-Act cycle to implement change.
- Explain the role that metrics and statistics play in measuring and controlling work processes.
- Describe the similarities and differences between Lean, Six Sigma, Lean Six Sigma, Design for Six Sigma.
- Apply the Practical Problem Solving (PPS) technique.
- Compare and contrast PPS and DMAIC methodologies.
- Analyze the workplace to identify typical muda (waste).
- Apply 5S to a workplace problem.
- Compare and contrast quality philosophies and quality management systems such as ISO 9000 standards, Malcolm Baldrige, EFQM, and other approaches.

Communication with Your Instructor

You will receive a welcome email from your instructor prior to the start of class. This email will contain your instructor's contact information. Your instructor will also be communicating with you via several methods in the course, including:

- **Announcements** – This communication tool, located on the navigation menu within your course in Canvas, contains important updates. Be sure to check for new announcements from your instructor each time you access your course.
- **Q&A** – Use this discussion board, located on the Home screen in your course, to communicate with your instructor and classmates regarding general course questions (i.e. missing links, assignment clarification, etc.).
- **Inbox** – Use the Inbox, located in the top right corner of Canvas, to send a message to your instructor or classmates.

Materials and Resources

Required Resource

- MindEdge. (2018). *Quality management basics.* MindEdge Learning, Waltham, MA.
- Cespedes, F. V. & Yong, S. (2013). *Andrew Ryan at VC Brakes*. Boston, MA: Harvard Business School.
  Purchase through your Harvard Course pack (contains above reading) **- List located in the Student Resource Center** https://.instructure.com/courses/722391/pages/harvard-coursepack-links

Additional Resources:

- American Psychological Association. (2009). Publication manual of the American Psychological Association (6th ed.). Washington, DC: American Psychological Association. ISBN 13: 978-1433805615 (softcover).
- Resource for writing and APA: https://owl.english.purdue.edu/owl/resource/560/01/
- Resource for checking APA format requirements: www.apastyle.org

Bookstore Information

The bookstore can be located in the left-hand navigation of any Canvas course.

Library Services

Detailed information about the eLibrary can be found in the Student Resource Center. This is a course that all students have access to during their academic career.

Canvas Help Desk and Technical Questions

If you experience technical issues in your course, please contact the Canvas Help Desk by clicking the Help link (top right corner within Canvas). There are 3 ways to contact them:

- Phone (888-628-2749)
- Live chat
- Report a problem (submit a ticket)

Be sure to notify your instructor of any technical difficulties you are experiencing.

Additional resources are available in the Student Resource Center and the Canvas Guides website: https://community.canvaslms.com/docs/DOC-4121

Weekly Schedule

Week 1	**Total Quality Management (TQM)**
Outcomes	• Explain the core principles of quality management, continuous improvement, and Total Quality Management (TQM). • Describe key contributions, including significant quality leaders, to Total Quality Management. • Identify the requirements for successful TQM implementation. • Explain how quality supports competitiveness.
Readings	1. Competing on the eight dimensions of quality. 2. Introduction and implementation of Total Quality Management (TQM) 3. What is a quality system? 4. Total quality management implementation and systems. 5. What is total quality management (TQM)? 6. Importance of leadership in TQM.
Lectures	Video introduction to Total Quality Management - Part 1 & 2
Multimedia	1. History of quality management 2. W. Edwards Deming: The 14 Points
Discussion	Choose **one** of the following contributors to quality management. Research and briefly describe their main contribution to the field of quality: W. Edwards Deming, Armand V. Feigenbaum, Joseph Juran, Philip B. Crosby, Walter Shewhart, Kaoru Ishikawa. Then, looking at your own work experience, describe an example where the influence of the contributor you chose is evident in the way your organization thinks about and executes quality management.
Assignments	**Individual Assignment** Instructions: Case Study **Using your Harvard Course pack reading:** Cespedes, F. V. & Yong, S. (2013). *Andrew Ryan at VC Brakes*. Boston, MA: Harvard Business School. ***In your purchased Harvard Course Pack.*** An aftermarket brake component manufacturer, VC Brakes, is bought out by a global automotive parts corporation after the 2008 financial crisis. Andrew Ryan is selected as an instructor for a newly launched TQM program. Write a 2-3 page, double spaced summary of this case study, highlighting Andrew's experiences during the TQM launch. Analyze whether the TQM launch was successful.

	Why or why not? Could Andrew have done something differently? What should he do now?
Quiz	Week 1 Assessment
Week 2	**Basics of Quality Management**
Outcomes	• Describe the simple principles that help guide quality management activities. • Explain the differences between quality control and quality assurance. • Apply the Plan-Do-Check-Act cycle to implement change. • Create a SIPOC diagram to help you visualize the work that you do as a process. • Construct a process flow diagram. • Explain the role that metrics and statistics play in measuring and controlling work processes.
Readings	1. Tools and techniques for quality management in manufacturing industries. 2. Using Plan-Do-Check-Act as a strategy and tactic for helping suppliers improve. *3.* Case Study: *Fall reduction.*
Lectures	Video lecture – Basics of Quality Management.
Required Multimedia	1. What is Quality Management? - MindEdge 2. The Making of a Steinway - A Steinway & Sons Factory Tour Narrated by John Steinway.
Multimedia-**Optional**	1. GEMBA: PDCA. 2. Personal best with PDCA. 3. GEMBA: SIPOC Diagrams. 4. GEMBA: Basic Statistics.
Discussion	In recent years, there have been numerous product recalls in industries ranging from food to automobiles. Research using the Internet and briefly describe a specific recall and its repercussions. What was the stated reason for the recall? Think back to one or more of the elements of TQM and comment on possible root cause(s) for this recall; what element(s) of TQM were neglected?
Assignments	**Individual Assignment** For EITHER a workplace process OR the process described in the video "The Making of a Steinway - A Steinway & Sons Factory Tour" (listed under Multimedia), construct a SIPOC diagram. Submit as a PowerPoint and include a title slide (your name, assignment title, course, date) and one slide illustrating your SIPOC diagram. Include slide notes describing the work process and its SIPOC.
Quiz	Week 2 Assessment: MindEdge
Week 3	**Quality Management Tools and Techniques**

Outcomes	• Apply the seven Ishikawa quality tools that help teams monitor and control quality processes. • Demonstrate how the seven "New" quality tools help to process and sort non-numerical data.
Readings	1. Barsalou, M. (2017). Revisiting the old seven. Quality Progress, 50(4), 42- 45.
Lectures	Video lecture - Quality Management Tools and Techniques.
Required Multimedia	Quality Management Tools and Techniques - MindEdge
Multimedia- **Optional**	1. GEMBA: Seven Quality Tools Overview. 2. GEMBA: The Graph. 3. GEMBA: Creating Run Charts. 4. GEMBA: The Control Chart. 5. GEMBA: Cause & Effect (Fishbone) Diagram. 6. GEMBA: Process Mapping & Selected Tools. 7. GEMBA: The Check sheet. 8. GEMBA: The Histogram. 9. GEMBA: The Pareto Chart. 10. GEMBA: The Scatter Diagram.
Discussion	Why would a company that is making satisfactory product, and has no customer complaints, want to continuously improve its processes and the work environment? What happened to the adage “If it’s not broke, don’t fix it’. In addition, describe an example of a process that was improved in your organization (or another you have researched); share what motivated the initiative to change that process.
Assignments	**Individual Assignment** Instructions: There are two parts to this assignment 1. Mini-Case: Sunnyside Garden Products supplies 50 lb. bags of fertilizer to retail outlets. You have recently been hired as a quality analyst and notice a 15% increase in customer complaints over the past year. Of 142 complaints received in the first quarter of this year, 29 customers complained of missing shipping documents, 45 cited unreadable barcodes, 10 indicated that the pallet shrink wrap was ripped, 12 noted that one or more bags were punctured. In addition, 38 customers indicated they received the wrong product, and 8 noted that the invoice had errors. Create a Pareto Chart to illustrate this data. What is the value of a Pareto Chart in problem solving? What does the chart indicate? What would you recommend as action item(s) for management. 2. Refer to the SIPOC you created in Week 2. For the process for which you drew the SIPOC (either a work process or the Steinway piano building process), create a detailed process flow diagram. Use standard process flow diagram protocol and

	symbols such as rectangles for activities and diamonds for decision points. Submit as a PowerPoint.
Quiz	Week 3 Assessment: MindEdge
Week 4	**Specific Quality Management Methodologies**
Outcomes	• Describe the core components of Lean, Six Sigma, Lean Six Sigma, Design for Six Sigma. • Describe the similarities and differences among Lean, Six Sigma, Lean Six Sigma, Design for Six Sigma. • Select the appropriate methodology for different kinds of problems.
Readings	1. Introduction to Lean. 2. Lean Six Sigma – getting better all the time. 3. The integration of Six Sigma and lean management
Lectures	Video Lecture: Specific Quality Management Methodologies
Required Multimedia	1. Specific Quality Management Methodologies - MindEdge
Multimedia-**Optional**	1. GEMBA: Overview-Six Sigma. 2. GEMBA: Overview-Lean. 3. GEMBA: Lean or Six Sigma. 4. GEMBA: Ten Commandments of Continuous Improvement.
Discussion	Briefly describe a process that you are familiar with, listing 4-5 steps in the process. What is meant by process flow in this process – what is "flowing"? For that process, is there something hindering flow; describe what you would recommend to create or improve flow.
Assignments	**Individual Assignment** Instructions: In a 2-3 page (double spaced) paper, describe an actual Lean or Six Sigma project. You may use a workplace example, or search for a case study article. Include the organization or company/industry, problem being addressed, the kind of data collected, results of data analysis, root cause(s) of the problem, improvements implemented, and benefits realized. Be sure to cite and list your references/source of your project example.
Quiz	Week 4 Assessment: MindEdge
Week 5	**Practical Problem Solving**
Outcomes	• Apply the Practical Problem Solving (PPS) technique. • Write a clear and concise problem statement. • Apply tools to identify root causes and countermeasures. • Compare and contrast PPS and DMAIC methodologies.

Readings	1. GEMBA: Problem Statement Overview 2. GEMBA: Clarify the Problem Overview 3. Problem Statement Dos and Don'ts (Tutorial).
Lectures	Video lecture: Practical Problem Solving
Required Multimedia	1. GEMBA: Practical Problem Solving. 2. GEMBA: The Problem Statement. 3. GEMBA: Step 1. Clarify the Problem. 4. GEMBA: Step 2. Break Down the Problem. 5. GEMBA: Step 3. Set a Target. 6. GEMBA: Step 4. Analyze Root Causes. 7. GEMBA: Five Why Explained. 8. GEMBA: Step 5. Develop Countermeasures. 9. GEMBA: Step 6. See Countermeasures Through. 10. GEMBA: Step 7. Evaluate the Process and Results. 11. GEMBA: Step 8. Standardize Success and Learn from Failures. 12. GEMBA: PPS vs. DMAIC
Multimedia- **Optional**	1. GEMBA: Treetop, Inc.
Discussion	After viewing the videos listed in Multimedia for this week, share an example of a problem in your or another workplace (you do not have to identify the organization). What 'type' of problem is it? State the problem clearly and concisely with consideration of the do's and don'ts of problem statement writing.
Assignments	**Individual Assignment** Instructions: In a 2-3 page paper, compare and contrast the methodologies of Practical Problem Solving, Lean, and Six Sigma. On what basis would you use one methodology over the other? Provide an example of a problem where each methodology would be appropriate for resolving the problem; include project examples from your experience or research.
Quiz	Week 5 Assessment
Week 6	**Dealing with the Seven Deadly Wastes**
Outcomes	• Identify forms of waste. • Classify work as value added, essential non-value added, or waste activities.
Readings	1. Seven deadly wastes. 2. Lean - it's not just for the shop floor anymore.
Lectures	Video Lecture: Dealing with the Seven Deadly Wastes

Required Multimedia	1. GEMBA: Overview: The Seven Deadly Wastes. 2. GEMBA: Stand in a Circle. 3. GEMBA: Waste of Defects. 4. GEMBA: Waste of Inventory. 5. GEMBA: Waste of Processing. 6. GEMBA: Waste of Waiting. 7. GEMBA: Waste of Motion. 8. GEMBA: Waste of Transportation. 9. GEMBA: Waste of Overproduction. 10. GEMBA: The 8th Waste.
Discussion	Lean is a TQM approach originally designed for manufacturing. With an example from your workplace, or one you have researched, describe how lean thinking was used to resolve a problem or improve a process in a non-manufacturing company. Cite and reference your researched source.
Assignment	Let's test your power of observation about muda. First, view the GEMBA tutorial "Stand in a Circle". Then, choose an area in your company/organization to observe for 15-20 minutes. Follow the steps in the video and list up to 5 examples of muda (waste) you observe. For each observation, identify which of the Seven Deadly Wastes applies, and suggest a solution. Comment on your observations – what were you expecting from this exercise; were there any surprises? Submit a Word document.
Quiz	Week 6 Assessment
Week 7	**5S Workplace Productivity**
Outcomes	• Describe the origin and relevance of 5S in the workplace. • Apply 5S to a workplace problem.
Readings	1. GEMBA: 5S Overview 2. GEMBA: Action Guide 3. Eliminate the 7 deadly wastes.
Lectures	Video Lecture: 5S Workplace Productivity
Required Multimedia	1. GEMBA: How to Approach 5S and Any Other Lean Concept. 2. GEMBA: Sort. 3. GEMBA: Straighten. 4. GEMBA: Sweep (Shine). 5. GEMBA: Standardize. 6. GEMBA: Sustain. 7. GEMBA: Action Guide.

Discussion	Describe a problem area in your workplace that you feel would benefit from the 5-S methodology. Discuss whether taking 5S action would face challenges or resistance; what challenges or resistance would you expect? How could resistance be countered/avoided?
Assignments	Use the Action Guide Powerpoint template provided to report out on a real 5S initiative: select a problem area at your or someone else's workplace and apply the 5S methodology using the provided template called *GEMBA Action Guide*.
Quiz	Week 7 Assessment
Week 8	**Quality Management Systems (Mega Tools)**
Outcomes	• Compare and contrast quality philosophies and quality management systems such as ISO 9000 standards, Malcolm Baldrige, EFQM, and other approaches.
Readings	1. An overview of the EFQM Excellence Model 2. Integrating Six Sigma with ISO 9001. 3. A relationship between Six Sigma and Malcolm Baldrige Quality Award 4. Integrating Six Sigma with quality management systems 5. A self-assessed quality management system based on integration of MBNQA/ISO 9000/ISO 14000 6. What is a quality system? 7. What is a quality management system (QMS)? ISO 9001 & other quality management systems. 8. What is the ISO 9000 standards series?
Lectures	Video lecture: Quality Management Systems (Mega Tools)
Multimedia	• Introduction to Baldrige • What is QMS? • What is ISO9001?
Discussion	You are Quality Manager for Sunnyside Garden Products, a $100 million company in the US Midwest. You have been asked by the CEO to implement a quality management system (QMS) for the company. The CEO asks about the benefits of a QMS and what you would recommend: ISO9000, Baldrige, or another approach. What would you tell the CEO?
Assignments	**ISO9000 or TQM – what would you do?** Instructions: Write a 2-3 page double spaced paper addressing the following: Seabe Solutions is a US based manufacturer of seat belts for the automotive industry. Within the past few years, Seabe has seen its overseas competitors take away market share with products that are lower priced and have shown to be more reliable. Mike Walker, CEO, is eager to improve the company's competitive position. The VP of

	Operations is encouraging Mike to implement total quality management; the Marketing Director and the Quality Assurance Director are making a case for ISO9000. 1. Assume you are siding with the VP of Operations; list the arguments for implementing TQM. 2. Now assume you are siding with Marketing and QA directors; list the arguments for ISO9000. 3. You believe there is a third approach that would satisfy Operations, Marketing, and QA executives. What would you propose to Mike and why? Reminder: This course ends on Friday at 6:00 AM Eastern.
Quiz	Week 8 Assessment

Grading and Evaluation

Your grades will reflect the way in which you present and support your topics and positions in the various learning activities used in this course. The grades will be based on the quality and quantity of your comments and responses in the various activities.

Be sure to review the discussion and assignment rubrics in the course for specific grading criteria.

The various graded activities are weighted as follows:

Course Element	% of Final Grade
Assignments	35
Discussions	20
Quizzes	20
Experiential Learning Activity	20
Weekly Feedback Quiz	5
Total	**100%**

Students will be expected to meet all the deadlines of the class as indicated throughout the course and in the syllabus. This is primarily so we don't get behind in the course. In addition, discussions cannot overlap from one week to the next. This is to ensure that all discussions and submissions take place within the week they are scheduled in order to be of value to the entire class as well as to help you not get behind. If there are extenuating circumstances, you will need to communicate that to the instructor and make arrangements accordingly, if appropriate.

Late Assignments: Exceptions are to be determined by the instructor on a case-by-case basis. There will be no opportunities for extra credit.

Learner Success Guidelines

These guidelines are provided to help you succeed in your coursework:

- Participate in the class introduction activity on the first day of class.
- Submit ALL assignments by the posted due dates and times.
- Check your emails daily.
- Contact Portal Help for logon problems or Canvas Help for technical issues with Canvas.
- Participate fully in all threaded discussions.
- Contact your instructor if you have questions about an assignment or need additional help completing your work successfully.

Academic dishonesty is grounds for dismissal from the program.

Academic Policies

The following Academic Polices can be found in the Student Resource Center.

- Grading Criteria
- Reasonable Accommodations Policy
- Student Attendance Policy
- Academic Honesty and Integrity Policy
- Student Engagement and the Granting of Academic Credit
- Copyright Policy

Caveat

The above schedule, content, and procedures in this course are subject to change. All policies are superseded by the latest College Catalog available on our website: https://www.cambridgecollege.edu/student-rights-complaints-grievances/student-code-conduct