

QUALITY CONTROL - DSCI 5320

Course Syllabus Fall 2016 – (subject to change)

INSTRUCTOR: Dr. Donna M. Lohr

OFFICE: BLB 319E **E-MAIL:** donna.lohr@unt.edu

OFFICE PHONE: (940) 565-3668

CLASS (DAY/TIME): Sect 01- Monday 6:30-9:20 PM in BLB 250

OFFICE HOURS: before class and by appointment

REQUIRED TEXTBOOK AND MATERIALS:

Evans, J. R. and Lindsay, W. M., **Managing for Quality and Performance Excellence**, 9th ed., South-Western: Cengage Learning, 2012, ISBN-13: 978-1285069463.

Book web site: www.cengage.com/login

See our course Blackboard Learn site for additional reading assignments and material.

The MBNQA Criteria for Performance Excellence found at the following site:

<http://www.quality.nist.gov/Criteria.htm> ; Education, Business, Health Care and Government criteria.

Other Reference Websites include: <http://www.asq.org> ; <http://www.qualitymag.com/> ;

<http://www.qualitydigest.com/> ; <http://www.texas-quality.org> ; <http://www.lean.org> .

Students with Disabilities: "The College of Business Administration in cooperation with the Office of Disability Accommodation, complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities." Please present your written accommodation request to me prior to the fourth class day.

COURSE PHILOSOPHY:

A variety of instructional techniques are used to achieve the pedagogical objectives of this course. The lectures are designed to introduce the philosophies and methodologies in quality science. Problems and methodologies are illustrated in class with a workshop like approach. The project component is intended to provide students with the opportunity to actively pursue a topic of interest.

Students will present on the progress of the project so the class can engage in interactive discussion about each continuous improvement project. References in addition to the text come from a number of sources such as Quality Progress, Quality, or Quality Digest.

Course Catalog Description: DSCI5320. Quality Control. 3 hours. Broad coverage of managerial and statistical aspects of quality control, including quality assurance and quality management. Topic coverage includes problem-solving tools, process capability assessment, control charts for variables, control charts for attributes and advanced control chart methods.

COURSE OBJECTIVES:

This course is designed to do the following:

1. Provide course participants with knowledge related to the general topic of quality management.
2. Provide course participants with the conceptual and practical aspects of quality management procedures such as six sigma, MBNQA, continuous quality improvement, and statistical quality control.
3. Provide course participants with a working knowledge (hands on experience) of quality improvement procedures as required to conduct an applied project.

4. This course is designed to allow the mature graduate student who has sufficient work experience the opportunity to master quality management principles at the level required to pass the American Society for Quality's Certified Manager of Quality / Organization Excellence certification exam.

COURSE REQUIREMENTS AND GRADING:

EXAMS: In the first class we will discuss the format and scope of the class and the exam(s). However, the majority of the in class exam questions will be at the level of the CMQ/OE and CQE exams and the questions in the required materials are appropriate for preparation. Similar to the format used by the American Society for Quality with these professional certification exams you are allowed to bring your book(s) and other printed materials that you think will be helpful.

COURSE PROJECT: The project requires the selection of a real world problem. This problem will involve the study of a process and ideally will allow a student team to pursue problem identification, verification, and control. This project, (individual or group), is intended to provide a realistic environment for students to demonstrate their competence with continuous quality improvement concepts and methodologies, as well as their communication skills. In addition to a class presentation, copies of the PowerPoint slides and the typed report are due the day of the presentation. A soft copy of the data file and presentation slides is due with the project. We are interested in the actual steps followed. The final presentation is an opportunity to convince the class of the appropriateness of the strategy and recommendations. A portion of several class meetings will be devoted to status reports on these projects so that the class and instructor can interact and provide feedback. This interaction will help direct the project and increase class involvement. These projects will be discussed further in class and flexibility is available to allow individualization of the learning experience.

Projects should be selected with the goal of completing the project within the term. There should be a demonstrable need for the project. A single process within an organization should be the focus of the project rather than attempting to solve a complex quality system. An important part of your project grade is your ongoing presentations and engagement of the class in your project. While each project is unique and requires modification as it develops a suggested projected schedule is provided.

PRESENTATIONS: There will be ongoing milestones in the project that will depend on continuous class presentations.

HOMEWORK: Homework includes reading and examining the problems in each chapter. While, the homework is not graded, you are expected to read, understand and attempt problems in the relevant sections of the textbook. All reading material is testable, even if it is not emphasized in the lecture.

CLASS PARTICIPATION: Graduate level work requires active input to the class with evidence of preparation for each class session. Participation during class via questions, engagement in discussion and being prepared with project materials is part of participation, as well as interaction with others who are discussing their projects.

ONLINE SUPPORT: We will use Blackboard in an effort offer you more class support via discussion links and online materials.

GRADE CRITERIA: Your grade will be based on the following:

Project	200 points
Exam #1 in class	200 points
Exam #2 in class	<u>200 points</u>
TOTAL POINTS	600 POINTS

INCOMPLETE GRADES: A grade of “I” will be given only in *exceptional* circumstances to passing students who have completed at least 70% of the course, and only for circumstances occurring during the last week of regular class meetings. That is, only emergency situations such as an illness or death in your immediate family constitute exceptional circumstances (and these must be fully documented).

Ethical Behaviour and Academic Misconduct: This course adheres to the UNT policy on academic integrity and conduct. The policy can be found at <http://vpaa.unt.edu/academic-integrity.htm>.

TOPICS that might be relevant to projects are listed below and the ability to find an applied project will be discussed in class. For more detail about any of possible topic areas go to the course Blackboard site, the textbook site, and search UNT electronic library resources.

- | | |
|------------------------------------|---|
| • Corrective Action and Prevention | • Quality Control |
| • Cost of Quality | • Quality Culture |
| • ISO standards | • Quality from the Customer Perspective |
| • Malcolm Baldrige Quality Award | • Quality Information Systems |
| • Organization for Quality | • Quality Planning |
| • Process Management | • Quality Tools |
| • Quality Audits | • Six-Sigma |
| • Quality by Design | • Strategic Quality Management |
| • Quality Concepts | • Supply Chain Management |

LECTURES: All electronic devices (cell phones, pagers, laptops, iPads, tablets, tape recorder, etc.) must be turned off before lecture begins. Tape recording of class lectures is NOT permitted. Photos or video may not be taken in class without prior written permission. Violation of this policy may result in a grade of zero for all assignments that day of the first attempt, and a failing grade for the second attempt. You will be asked to leave the classroom you violate the policy.

ADDITIONAL ELECTRONIC DEVICES CLASSROOM POLICY: The following are prohibited unless the student has written prior approval.

- Recording or transmitting via audio or visual technology and lecture, tutorial, written material of any type without obtaining consent
- Using personal electronic devices during examinations
- Communicating with others via e-mail, instant messaging during class time using cell phone, computer, or other electronic device, unless expressed permission is given by the instructor during group assignments

COURSE TOPIC OUTLINE:

<u>DATE:</u>	<u>TOPICS</u>	<u>READING</u>	<u>ASSIGNMENTS</u>
Week 1-Aug 29	Course introduction Introduction to Quality Malcolm Baldrige Nat Q Award	Syllabus Ch 1 MBNQA criteria	Even problems – Solutions on student CD
Week 2-Sept 5	Labor Day – No class but work on writing up a description of a potential quality improvement project so your team can present to the class. You will present in class as a team of students that agree to work on a common project. If you don't have a full team you can try to add an additional member(s) among those not yet on a team.		
Week 3-Sept 12	Foundations of Quality Mng Discuss potential projects	Ch 2	Even problems
Week 4-Sep 19	Customer Focus	Ch 3	Even problems
Week 5- Sept 26	Workforce Focus Discuss Projects Topics	Ch 4	Even problems
Week 6- Oct3	Process Focus Discuss Projects	Ch 5	Even problems
Week 7-Oct 10	Statistical Methods in Q Mng Design for Q & Product Excellence Discuss Projects	Ch 6 Ch 7	Even problems Even Problems
Week 8-Oct 17	Measuring & Controlling Quality Improvement & Six Sigma Discuss Projects	Ch 8 Ch 9	Even problems Process Even Problems
Week 9-Oct 24	Exam 1: Chapters 1-9		
Week 10-Oct 31	The Baldrige Framework for Performance Excellence Strategy & Performance Excellence Discuss Projects	Ch 10 Ch 11	Even problems Even Problems
Week 11-Nov 7	Presentation of Healthcare quality Project team meeting		
Week 12-Nov 14	Measurement and KM for Performance Excellence Discuss Project progress	Ch 12	Even Problems
Week 13-Nov 21	Leadership for Perform Excellence Building and Sustaining Quality & Performance Excellence	Ch 13 Ch 14	Even Problems Even Problems

**Final Project Team Presentations Questions and Discussion
or semifinal summary check point**

Week 14-Nov 28 Work in teams either in class or virtually to create a draft of your project report and PPTs for final presentation. We will not have a formal class meeting but you should meet to work on and finalize your projects.

Week 15-Dec 5 **Final Project Team Presentations** **Presentations**

SETE: Please remember to participate in the SETE. The student feedback I have received over the years has been useful in letting me know how to revise and further develop my course. Thank you for participating in this class and providing me with your input.

Week 16-Dec 12 **Exam 2: Chapters 10-14**

SUGGESTED PROJECT SCHEDULE

The list below is intended to pace the development process for your quality improvement project. The last 45 min of most class meetings will be used to provide each team with a few minutes to present their ongoing progress to the class. This ongoing progress and class participation is an important learning tool for the entire class because it allows each every class member to have some involvement in a variety of projects and approaches.

Individual Assignment: Project Proposal

Part 1: Proposal Handout

Due Class 2

Prepare a project proposal in any format that fits on one 8.5 x 11 page – one side. Provide copies for each member of the class. Proposals should include:

- A brief, descriptive project title (2-4 words).
- Your name, email, phone number and major.
- A description of the project opportunity you have identified. Your description may include any of the following: 1) documentation of the need, and shortcomings of existing processes, 2) potential for gathering data or existing data, 3) possible alternatives for analyzing data, 4) opportunity for implementation, and 5) potential organizational contacts.
- Please do not present any of your own recommendations at this point; our strict focus in this phase of the course is on the project opportunity and not on solution concepts.

Part 2: Proposal Presentation

Due Class 3

Form teams and prepare a short (a few minutes) team presentation to be delivered in class. Your presentation should include:

- Your names and majors
- A verbal or visual demonstration of the project opportunity your team has refined based on the original proposal. Given that the audience will be able to read your proposal at their leisure, you might spend your time explaining the potential for learning opportunity or demonstrating existing benchmarks.
- Any special skills or assets you have (quality or statistical expertise, access to processes, individual interest, etc.).

Visual aids are to be provided.

Part 3: Project Preferences

Due Class 4

Submit your project team preferences. List the projects you would most like to work on, in order of preference. If you would like to work with a particular group of classmates, you should all list the exact same project preferences in one email and list and copy each other. Teams will be finalized and discussed at the end of either this or during the next class meeting.

The following assignments provide a suggested format to assist your team in making progress.

Each project is unique and the structure can vary to accommodate these differences.

Assignment: Proof of the need

Due Class 6

Present a descriptive statement and an organized list of needs for your project to address.

Assignment: Identify alternatives for addressing the project

Due Class 7

Describe some of the steps for generation of alternatives. Prepare a list of the alternatives, such as fact gathering methods, statistical approaches, existing datasets, and contacts with organization being studied.

Assignment: Project Timeline**Due Class 8**

Hand in a time line of the project steps that you intend to pursue. Show the results of preliminary brainstorming or other initial assessment methods to indicate possible directions that the project may take. Also prepare a list of the key uncertainties or questions you still need to address to determine the viability of your product. For each one, specify an associated plan of action (such as analysis, further research or data collection plans). Also indicate any opportunity to present project to organization under study.

Assignment: Peer Review and Proof-of-Need**Due Class 10**

Prepare a 10-minute presentation of your project concept. The presentation should include a review of your project proposal, proof of need, alternatives for addressing the project and project timeline showing strategy and milestones. There will be 5 minutes of discussion after each presentation.

Assignment: Initial report of data and preliminary analysis**Due Class 11**

Prepare printouts of data analysis and graphs, results of problem solving tools and initial finding. Show adjustments to timeline. Your team should list recommendations and potential methods for implementation.

Assignment: Project Final Questions**Due Class 12**

Bring any remaining questions or concerns for class discussion.

Assignment: Test of potential implementation plans & Assess Project Progress**Due Class 13**

Prepare final implementation plans based on results of data analysis and problem solving techniques. Develop a validation plan, either a pilot study or approval process with organizational management. By this time, you should have the initial drafts of project report. Prepare an assessment of the feasibility of recommendations and implementation of improvement process plans. If you can obtain evidence of how the participating organization will implement your recommendations or participate in the improvement process.

Assignment: Final Project Presentation**Due Week 15**

Prepare a 15-minute presentation describing your project. Your presentation should concentrate on the project itself, although you may wish to emphasize any particularly impressive portions of your project development, data gathering or analysis or implementation process. An effective presentation includes projection of computer color visuals, along with a convincing demonstration of your success. The presentation should be of the quality you would make to convince a top management that the quality improvement process you have completed meets the business needs of the organization. You can invite representatives of the organizations that you are working with. Turn in a copy of the slide presentation and a copy of your project report.

STUDENT DATA SHEET

NAME:

E-MAIL ADDRESS:

MAJOR FIELD:

MINOR FIELD (if applicable):

WORK EXPERIENCE:

COMMENTS OR THINGS YOU THINK I SHOULD KNOW ABOUT YOU (Include your statistics and quality background):