

**University of North Texas
College of Business
Department of Logistics, and Operations Management**

OPSM 4830.001 PRODUCTIVITY AND QUALITY MANAGEMENT

Semester: Fall 2023
Class Time & Venue: 12:30-1:50 PM Thursday; BLB 255

Ph: (940) 565-2862
E-mail: use CANVAS email
Office Hours: Mo 10:30 am-12:30 pm
or **via Zoom** by appointment

Instructor: Dr. Divesh Ojha
Office: BLB 385C

Course Description: This course is concerned with the theory and practice of quality science. It also explores the connection between quality improvement and productivity gains. Topics to be covered include, among others, quality management in product design and development, service design for effective customer management, acceptance sampling, total quality management, process control, and their impact on productivity.

Course Objectives: The course aims to equip students with a sound understanding of the basic principles of quality management and how to apply them to enhance the productivity of a manufacturing or non-manufacturing organization. Also examined are some important analytical tools for detecting, analyzing, and eliminating quality problems to achieve increased profitability and improved competitiveness.

Textbook: Managing Quality: Integrating the supply chain 6th edition by S. Thomas Foster ISBN 13: 978-0-13-379825-8 Publisher: Pearson.

Supplemental Materials: Lecture notes/videos and other course-related information will be posted on Blackboard throughout the semester.

Evaluation Methods: The course grade will be determined as follows:

Assigned Integrative Summaries	15%
Online Review Quizzes	15%
Research Participation	10%
Attendance and Participation	8%
Discussion lead/notes	2%
Group Project	30%
Exam 1	6%
Exam 2	7%
Exam 3	7%

Total	100%
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Optional comprehensive final (taken in lieu of one of the three Exams 1 or 2 or 3)

90.00% or above	A
80.00% - 89.99%	B
70.00% - 79.99%	C
60.00% - 69.99%	D
59.99% or below	F

Other Policies:

1. Course work - There will be 10 online review quizzes, 10 group class work with CANVAS submission (also counting towards attendance and participation), 9 integrative summary submissions, 9 summary discussions (also counting towards attendance and participation) led by assigned group, one group project, 3 exams, research participation (managed by RCOB SONA), and one cumulative optional final examination if needed. No late submissions will be accepted, nor will make-up tests be given unless there is documented evidence of an extreme circumstance causing the delay or absence.
2. Class attendance - Attendance is strongly recommended. However, whether present or not, each student will be held responsible for any materials discussed and announcements made in class. Group classwork will be used to

count class participation. There may be peer evaluation for group classwork.

3. Academic integrity - Anyone in this class engaging in academic dishonesty will receive a failing grade in the course. In addition, the case will be referred to the University for appropriate disciplinary actions. Academic dishonesty includes, but is not limited to, the following:
 - (1) use of any unauthorized assistance in taking quizzes, tests, or examinations,
 - (2) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments,
 - (3) acquisition, without permission, of tests, notes, or other academic work belonging to a University faculty or staff member,
 - (4) any other act that gives a student an unfair advantage,
 - (5) use, by paraphrase or direct quotation, of the published or unpublished work of another person without full and clear acknowledgment, and
 - (6) unacknowledged use of work prepared by another person or agency in the selling of term papers or other academic materials.
4. Disability accommodation - The University of North Texas fully complies with the Americans with Disabilities Act. If you have an established disability as defined in the Act and would like to request accommodation, please see me within the first week of class or as soon as possible.
5. Reading Summaries - All reading summaries should be typewritten in Times New Roman of size 12 on 8 ½ x 11 white paper. Two single spaced pages are allowed for the summaries. There will be online class discussion on CANVAS based on assigned readings. An assigned group will be leading the online discussion and making the notes of the key takeaways from the discussion. The notes from the discussion should be emailed to the entire class with a copy to me (via CANVAS) by the following Saturday.
6. Online review quizzes and group classwork with online submission will occur throughout the course.
7. Group project - Each of the project teams is also required to carry out a quality improvement project, submit a report, and make a presentation. In order for such a major undertaking to be successful, each group needs to select an organization (either a service company or a manufacturing concern or a government agency or a nonprofit institution), make initial contacts, visit the facility, and discuss with one or more of the managers there to understand the quality control process. Relevant information gathered should be carefully analyzed and synthesized to gain insights into the company's quality management system so that meaningful suggestions for improvement can be made.

The project report can be prepared with the aid of the textbook, class notes, and handouts. Use of personal experience, the Internet, and information from other sources should prove helpful and is encouraged. The issues addressed in the paper should be comprehensive and consist of the following:

- (1) Description of the organization. This includes the name, location, and brief history of the firm, the type of industry it is in, the organizational structure, the variety of products made, the volume of each product, the transformation process(es) employed, the types of equipment used, the facility layout, the production strategy adopted, and the labor requirements (for example, skilled and unskilled workforces). Moreover, any quality-related corporate strategy that is being implemented should be reported as well.
- (2) Description of the quality function. This includes the size, structure, organizational position, and objectives of the quality control department, the variety of goods, parts, and components bought, the purchase volumes, the number and types of suppliers used, and the information technologies employed.
- (3) Description of the quality improvement tools, processes, and programs that are currently in place. These include, but are not limited to, acceptance sampling, benchmarking, business reengineering, continuous quality improvement, control charts, experimental design, fishbone diagram, ISO certification, kaizen, Pareto analysis, quality control circle, quality function deployment, six-sigma, Taguchi method, and total quality management. Any forms, tables, or graphs used in the quality system should be documented.

- (4) Analysis and discussion of the existing practices. This includes a critical review of the quality improvement process in light of all the information collected, identification of its strengths as well as weaknesses, description of concerns raised by the individual(s) interviewed, and initiatives being taken within the organization to address the problems encountered.
- (5) A day in the life of the interviewee. This includes the quality professional's name, job title, contact information (such as postal mail address, electronic mail address, and work phone number), age group, salary range, educational background, and previous business experiences. In addition, it is necessary to give a detailed account of his/her current work responsibilities, allocation of time among various activities, interaction with colleagues in other functional areas, notable professional accomplishments, career developments (such as six-sigma master black belt, memberships in professional societies, and participation in conferences/seminars/workshops), future goals, and so on.
- (6) Conclusion and recommendations. This includes a succinct summary of the project undertaken, major findings of the study, specific recommendations for quality improvement, and challenges facing the quality control department of the company.

Each team has to submit two typewritten progress reports during the course of the semester. The required format of the submission is shown on this page. Additionally, **each team must turn in one copies of the final project report** in essay form, typewritten, double-spaced, with one-inch margins at the top, bottom, left, and right, and no more than 25 pages of text in Times New Roman font of size 12. A maximum of 15 pages of attachments may be included for clarification purposes. Strict adherence to the guidelines in the *APA Style Manual* is required in preparing the report, so be sure to consult the following book, which is available in the University libraries:

American Psychological Association. *Publication manual of the American Psychological Association* (6th ed.) Washington, DC: American Psychological Association, 2010.

Particular attention will be paid to the following areas when a project report is evaluated: content of materials, organization of paper, improvement recommendations made, clarity of presentation, writing style and format, visual illustrations, as well as typographical and grammatical errors if any. The grade will be determined as follows:

Description of organization	15%
Description of quality function	15%
Description of quality initiatives and programs	20%
Analysis and discussion of quality system	20%
A day in the life of interviewee	10%
Conclusion and recommendations	20%

Each group must present its completed project to the rest of the class. The presentation should be professional in nature with respect to appearance and style. Moreover, the PowerPoint presentation should be of such length that it should last about 20 but no more than 25 minutes.

The project presentation will be evaluated based on thoroughness of materials covered, relevance of recommendations, clarity of delivery, professionalism (such as dress and visual aids), and overall organization. Please note that each student's grade on the term project will be subject to peer evaluations. Suppose, for instance, that you receive a grade of 90% for the report and the presentation combined and get an average group assessment of 90%. Your overall project grade will then be $90\% \times 90\% = 81\%$. See Page 10 for a sample completed evaluation form.

8. Dropping a group member - In case an individual does not perform to the team's expectation in the research project by constantly missing group meetings, failing to provide requested information in a timely fashion, contributing work that is poorly done, or exhibiting other unprofessional behaviors, the other members may collectively decide to drop him/her from the team. However, in the interest of fairness, the five-step procedure outlined below must be closely followed:
 - (1) There needs to be a unanimous agreement among all other team members that the student's performance is unsatisfactory.
 - (2) The concern must be conveyed to the individual in writing and discussed with him/her in person. The written notice must be signed and dated by the rest of the group.

- (3) A copy of the above-mentioned notice has to be submitted to the instructor at the same time.
 - (4) The student has one week of class time to improve his/her performance.
 - (5) If no satisfactory improvement is made over the two-week period, then a final written notice of dropping the person as a member of the team will be signed and dated by the other members and given to him/her. In the meanwhile, a copy of the document must be forwarded to the instructor. If a student is dropped from a team and not accepted by another, then he/she must undertake another research project independently. **Notice that no team members can be dropped after the second exam.**
9. Course evaluations: There will be an online SPOT evaluation of teaching administered by the University of North Texas at the end of the semester. Through these two surveys, you are going to have opportunities to comment on how this class is taught. Your feedback will be valued and appreciated as I continue to improve my performance in the classroom.
 10. Acceptable student behaviors - Student behaviors that interfere with an instructor's ability to conduct a class or other students' opportunity to learn are unacceptable and will not be tolerated at UNT. They will be directed to leave the classroom and the instructor may refer them to the Center for Student Rights and Responsibilities for consideration of violation of the Code of Student Conduct, which can be found at www.unt.edu/csrr. The University's expectations for student behaviors apply to all instructional forums, including traditional and electronic classrooms, labs, discussion groups, field trips, etc.
 11. UNT endeavors to offer you a high-quality education and provide a supportive environment in which you can learn and grow. As a faculty member, I am committed to helping you succeed as a student. Here is how you can achieve your goals at UNT: show up, find support, take control, be prepared, get involved, and be persistent!

Research Participation (10%)

Research Participation (10 points). As part of your learning experience in this course, you will be required to participate in research studies to gain experience with the research process and learn about methods and scaling techniques. Your participation in these research studies will make up **10%** of your final class grade.

To fulfil the requirement, you **must** create an account on the **College of Business REP** webpage—unt-cob.sona-systems.com—which allows you to browse and sign up for available studies. **DO NOT** sign up for the SONA in the Psychology Department! Use the **CoB SONA** link provided above.

The amount of credit assigned is based on the length of time the study takes to complete and whether you participate online or in-person in the COB behavioral Lab (BLB 279):

Online Studies

- <15 minute studies = 1 credit
- 15-30 minute studies = 2 credits
- >30 minute studies = 3 credits

In-Person Lab Studies (Behavioral Lab - BLB 279)

- <15 minute studies = 3 credit
- 15-30 minute studies = 4 credits
- >30 minute studies = 5 credits

To fulfill the 10% course requirement, you must earn a total of **10 REP credits** throughout the semester (i.e., 1 credit = 1 percent of your final grade). All credits earned will be added to your final course grade at the end of the semester. Additional extra credit points may be available at my discretion.

- ➔ To sign up, please visit unt-cob.sona-systems.com. If you have questions, DO NOT contact me. Instead, contact the SONA managers via email at RCoBRep@unt.edu. Your questions will be addressed promptly, usually within 24 hours.

Please Note:

- 1) Don't wait! Create your account ASAP! Get first access to available studies.
- 2) Assign your credits to the proper course. This course is: **OPSM 4830 Section 1**.
- 3) If you have another course that also requires SONA credits, you must complete those credits separately. On the main SONA account page, you can assign your completed credits to specific courses (of your choice). You have up to December 8th to adjust these credits!
- 4) If you do not want to participate in the posted studies, you can complete a 2-page research article critique for 2 points of REP credit each. To do so, please email RCoBRep@unt.edu and they will assign you an article to critique. Critiques are due on or before Dec 1st.

Important Deadlines!

December 1st, 5:00 PM – Last day to participate in SONA for Fall semester. You will have one week from this date to adjust your final credits assigned to particular classes in SONA. On December 8th, final scores will be distributed to instructors and cannot be changed after that point.

Thanks in advance for your participation! Have a great semester!

Course Schedule (Instructor reserves the right to change the schedule if needed)

MODULE	Week		Chapter Number	Chapter Name
MODULE 1	Monday, August 21, 2023	Sunday, August 27, 2023	Chapter 1	Differing Perspective on quality
MODULE 2	Monday, August 28, 2023	Sunday, September 3, 2023	Chapter 1	Differing Perspective on quality
MODULE 3	Monday, September 4, 2023	Sunday, September 10, 2023	Chapter 2	Quality Theory
MODULE 4	Monday, September 11, 2023	Sunday, September 17, 2023	Chapter 3	Global Supply chain Quality and International Quality Standards
MODULE 5	Monday, September 18, 2023	Sunday, September 24, 2023	Chapter 7	Quality and Innovation in Product and Process Design
MODULE 6	Monday, September 25, 2023	Sunday, October 1, 2023	Exam 1	(on Chapters 1,2,3,7)
MODULE 7	Monday, October 2, 2023	Sunday, October 8, 2023	Chapter 8	Designing Quality Services
MODULE 8	Monday, October 9, 2023	Sunday, October 15, 2023	Chapter 9A	Acceptance Sampling
MODULE 9	Monday, October 16, 2023	Sunday, October 22, 2023	Chapter 10	The Tools of Quality
MODULE 10	Monday, October 23, 2023	Sunday, October 29, 2023	Exam 2	(on Chapters 8,9A,10)
MODULE 11	Monday, October 30, 2023	Sunday, November 5, 2023	Chapter 11	Statistically Based Quality Improvement for Variables
MODULE 12	Monday, November 6, 2023	Sunday, November 12, 2023	Chapter 12	Statistically Based Quality Improvement for Attributes
MODULE 13	Monday, November 13, 2023	Sunday, November 19, 2023	Chapter 13	Lean Six sigma Management and Tools
MODULE 14	Monday, November 20, 2023	Sunday, November 26, 2023	THANKSGIVING BREAK	
MODULE 15	Monday, November 27, 2023	Sunday, December 3, 2023	1) Project Submission and 2) SONA Research Participation deadline	
MODULE 16	Monday, December 4, 2023	Sunday, December 10, 2023	Exam 3	(on Chapters 11,12,13)
MODULE 17	Monday, December 11, 2023	Sunday, December 17, 2023	Optional Final	(all chapters)

Due Dates:

Due Date	Item due	Due Time
Sat Aug 26, 2023	Quiz Confirmation of Reading the Syllabus	due by 10pm
Thu Aug 31, 2023	Assignment Group Classwork - Chapter 1	due by 11:59pm
Sat Sep 2, 2023	Quiz Review Quiz - Chapter 1	due by 10pm
Thu Sep 7, 2023	Discussion Topic Summary 1 Discussion Online	due by 11:59pm
	Assignment Summary 1 submission link	due by 11:59pm
	Assignment Group Classwork - Chapter 2	due by 11:59pm
Sat Sep 9, 2023	Quiz Review Quiz - Chapter 2	due by 10pm
Thu Sep 14, 2023	Discussion Topic Summary 2 Discussion Online	due by 11:59pm
	Assignment Summary 2 submission link	due by 11:59pm
	Assignment Group Classwork - Chapter 3	due by 11:59pm
Sat Sep 16, 2023	Quiz Review Quiz - Chapter 3	due by 10pm
Thu Sep 21, 2023	Discussion Topic Summary 3 Discussion Online	due by 11:59pm
	Assignment Summary 3 submission link	due by 11:59pm
	Assignment Group Classwork - Chapter 7	due by 11:59pm
Sat Sep 23, 2023	Quiz Review Quiz - Chapter 7	due by 10pm
Thu Sep 28, 2023	Quiz Exam 1 - Online	due by 11:59pm
Thu Oct 5, 2023	Discussion Topic Summary 4 Discussion Online	due by 11:59pm
	Assignment Summary 4 submission link	due by 11:59pm
	Assignment Group Classwork - Chapter 8	due by 11:59pm
Sat Oct 7, 2023	Quiz Review Quiz - Chapter 8	due by 10pm
Thu Oct 12, 2023	Discussion Topic Summary 5 Discussion Online	due by 11:59pm
	Assignment Summary 5 submission link	due by 11:59pm
	Assignment Group Classwork - Chapter 9A	due by 11:59pm
Sat Oct 14, 2023	Quiz Review Quiz - Chapter 9A	due by 10pm
Thu Oct 19, 2023	Assignment Group Classwork - Chapter 10	due by 11:59pm
	Discussion Topic Summary 6 Discussion Online	due by 11:59pm
	Assignment Summary 6 submission link	due by 11:59pm
Sat Oct 21, 2023	Quiz Review Quiz - Chapter 10	due by 10pm
Thu Oct 26, 2023	Quiz Exam 2 - Online	due by 11:59pm
Thu Nov 2, 2023	Assignment Group Classwork - Chapter 11	due by 11:59pm
	Discussion Topic Summary 7 Discussion Online	due by 11:59pm
	Assignment Summary 7 submission link	due by 11:59pm
Sat Nov 4, 2023	Quiz Review Quiz - Chapter 11	due by 10pm
Thu Nov 9, 2023	Assignment Group Classwork - Chapter 12	due by 11:59pm
	Discussion Topic Summary 8 Discussion Online	due by 11:59pm
	Assignment Summary 8 submission link	due by 11:59pm
Sat Nov 11, 2023	Quiz Review Quiz - Chapter 12	due by 10pm
Thu Nov 16, 2023	Assignment Group Classwork - Chapter 13	due by 11:59pm
	Discussion Topic Summary 9 Discussion Online	due by 11:59pm
	Assignment Summary 9 submission link	due by 11:59pm
Sat Nov 18, 2023	Quiz Review Quiz - Chapter 13	due by 10pm

Thu Nov 30, 2023	Assignment Group Project	due by 11:59pm
	Assignment Peer Evaluation	due by 11:59pm
Fri Dec 1, 2023	Assignment Research Participation Total	due by 5pm
Thu Dec 7, 2023	Quiz Exam 3 - Online	due by 11:59pm
Thu Dec 14, 2023	Quiz Optional Final	due by 11:59pm

EMERGENCY EVACUATION PROCEDURES FOR BUSINESS LEADERSHIP BUILDING:

- **Severe Weather** In the event of severe weather, all building occupants should immediately seek shelter in the designated shelter-in-place area in the building. If unable to safely move to the designated shelter-in-place area, seek shelter in a windowless interior room or hallway on the lowest floor of the building. All building occupants should take shelter in rooms 055, 077, 090, and the restrooms on the basement level. In rooms 170, 155, and the restrooms on the first floor.
- **Bomb Threat/Fire** In the event of a bomb threat or fire in the building, all building occupants should immediately evacuate the building using the nearest exit. Once outside, proceed to the designated assembly area. If unable to safely move to the designated assembly area, contact on or more members of your department or unit to let them know you are safe and inform them of your whereabouts. Persons with mobility impairments who are unable to safely exit the building should move to a designated area of refuge and await assistance from emergency responders. All building occupants should immediately evacuate the building and proceed to the south side of Crumley Hall in the grassy area, west of parking lot 24.

COVID-19 impact on this class

It is important for all of us to be mindful of the health and safety of everyone in our community, especially given concerns about COVID-19. Please contact me if you are ill, or unable to complete a scheduled, graded class task on time due to any issue related to COVID-19. It is important that you communicate with me prior to the deadline for the task as to what may be preventing you from completing it so that I may make a decision about accommodating your request in a reasonable manner that is also fair to the other students.

If you are experiencing cough, shortness of breath or difficulty breathing, fever, or any of the other possible symptoms of COVID-19 (<https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>) please seek medical attention from the Student Health and Wellness Center (940-565-2333 or askSHWC@unt.edu) or your health care provider. While regular, steady work is an important part of succeeding in this class, your own health, and those of others in the community, is more important.

Here is the link to the UNT webpage on staying safe on campus during the pandemic.
<https://healthalerts.unt.edu/return>

**MGMT 4830.001 Productivity and Quality Management
Project Progress Report**

Group number:

Group members:

Company:

Contact person (including name, job title, postal mail address, e-mail address, and work phone number):

Activities to date (no more than one page in length):

MGMT 4830.001 Productivity and Quality Management
Peer and Self Evaluation Form for Group Project

Instruction: Please rate each of your fellow team members with respect to the criteria listed in the table below.
 Be honest, reasonable, and fair.

Group number: 1

Names→	Amy Becker	Chris Drake	Eileen Flay	Gene Hanks	Yourself
Meeting attendance (15%)	15%	12%	13%	15%	14%
Punctuality of work (15%)	14%	15%	12%	15%	13%
Fair share of work (30%)	29%	30%	27%	30%	29%
Quality of work (40%)	38%	37%	35%	40%	39%
Total (100%)	96%	94%	87%	100%	95%

Name: _____

Signature: _____

Date: _____

Comments: _____
