



**DEPARTMENT OF MECHANICAL AND INDUSTRIAL ENGINEERING
INDUSTRIAL ENGINEERING PROGRAM, BSC.**

Course Syllabus

1. Course number and name

IE 566 Total Quality Management

2. Credits and contact hours

(3+0) 3 credit hours, 3 contact hours

3. Course type

Blended Learning Course (2+1)

4. Instructor's or course coordinator's name

Dr. Nader Santarisi

5. Textbook information

Total Quality Management, 3rd Edition, by Besterfield, Dale H.; Besterfield-Michna, Carol; Besterfield, Glen H.; Besterfield-Sacre, Mary; Urdhwareshe, Hemant; and Urdhwareshe, Rashmi, 2012, Dorling Kindersley, ISBN 9788131764961, eISBN 9788131776308.

a. Other supplemental materials

1. Instructor's notes.
2. Jeffrey A. Doney, Total Quality Management (TQM): Concepts, Implementation and Applications, Nova Science, New York, 2019, 9781536156010.
3. Marco Sartor and Guido Orzes, Quality Management: Tools, Methods and Standards, Emerald, 2-019, 9871787698048.
4. Lee J. Krajewski, Manoj K. Malhotra, Larry P. Ritzman, Operations Management: Processes and Supply Chains, 12th Edition, Pearson, 2019, 9781292259932.
5. Arthur Collins, Service Quality (SQ): Prospectives, Management and Improvement Strategies, Nova Science, New York, 2017, 978536107623.
6. Wei Zhan and Xuru Ding, Lean Six Sigma and Statistical Tools for Engineers and Engineering Managers, Momentum Press, New York, 2016, 9781606504925.
7. John S. Oakland, Total quality management and operational excellence: text with cases, 4th Edition, Routledge, 2014, 9780415635509.
8. Dodge Hugely, Total quality management, Random Exports, 2013, 9789382226185.



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9. Related websites (for example: www.qualitybooks.co.uk)

6. Specific course information

a. Catalog description

Introduction to Total Quality Management (TQM), Leadership, Customer Satisfaction, Employee Involvement, Continuous Process Improvement, Supplier Partnership, Performance Measures, Tools and Techniques of TQM, ISO 9000 and Excellence Awards.

b. Prerequisites or co-requisites

Prerequisite: IE 370 Quality Control

c. The course is:

Elective Course in the Industrial Engineering program.

7. Specific goals for the course

a. Course outcomes:

After completion of the course, students are expected to be able to:

1. Understand the concept of Total Quality Management and related principles, and develop quality statements (Vision, Mission, and Quality Policy).
2. Participate in different continuous improvement teams, use different continuous improvement tools, and measure the performance of projects, processes, individuals, etc.
3. Participate in projects (like developing strategic plans, ISO 9000), select and evaluate suppliers and develop partnership relations with them, and understand the criteria of some Excellence Awards.

b. The following student outcomes are addressed by the course:

SO-(c) an ability to design a quality system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability

SO-(d) an ability to function on multidisciplinary teams

SO-(e) an ability to identify, formulate, and solve engineering problems

SO-(i) a recognition of the need for, and an ability to engage in life-long learning



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8. Learning Outcomes and their Alignment with Program Educational Objective (PEO's), Methods of Delivery, and Assessment Methods:

Learning Outcomes	Program PEOs	Method of Delivery	Assessment Method
Course Outcomes			
CO-(1): Understand the concept of Total Quality Management and related principles, and develop quality statements (Vision, Mission, and Quality Policy).	-	Lectures (Example and Problems)	Assignment/ Quiz
CO-(2): Participate in different continuous improvement teams, use different continuous improvement tools, and measure the performance of projects, processes, individuals, etc.	-	Lectures (Example and Problems)	Assignment/ Quiz/Project
CO-(3): Participate in projects (like developing strategic plans, ISO 9000), select and evaluate suppliers and develop partnership relations with them, and understand the criteria of some Excellence Awards.	-	Lectures (Example and Problems)	Assignment/ Quiz/Project
Student Outcomes			
SO-(c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	1-3	Term Project	Term Project
SO-(d) an ability to function on multidisciplinary teams	3	Term Project	Term Project
SO-(e) an ability to identify, formulate, and solve engineering problems	2	Lectures (Example and Problems)	Midterm Exam
SO-(i) a recognition of the need for, and an ability to engage in life-long learning	1-3	Term Project	Term Project

9. Weekly Teaching Plan

Lecture(s)	Topic	Method of Delivery
1-3	Total Quality Management (Introduction)	Lecture/ Online Lecture



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4-8	Leadership	Lecture/ Online Lecture
9-13	Customer Satisfaction	Lecture/ Online Lecture
14-18	Employee Involvement	Lecture/ Online Lecture
19-23	Continuous Process Improvement	Lecture/ Online Lecture
24-27	Supplier Partnership	Lecture/ Online Lecture
28-32	Performance Measures	Lecture/ Online Lecture
33-38	Tools and Techniques of TQM	Lecture/ Online Lecture
39-42	ISO 9000	Lecture/ Online Lecture
43-45	Excellence Awards	Lecture/ Online Lecture

10. Grade Distribution:

Assessment	Grade	Week No.
- Midterm Exam	30%	7 th Week
-Assignments (Reports /Project/Quizzes/ Home works)	20%	1-16 th Week
- Final Examination	50%	16 th Week

Note: Make-up exams will be offered for valid reasons. It may be different from regular exams in content and format.