

Course Outline

Course Code: IE 407

Course Title: Total Quality Management

Program	BS(IE)
Credit Hours	3
Duration	One semester – Fall 2025
Prerequisites	None
Resource Person	Dr. Ali Ahmad
Counseling Timing	Open door
Contacts	ali.ahmad@umt.edu.pk

Chairman/Director signature.....

Dean's signature.....

Date.....

Course Learning Outcomes (CLOs)

Upon successful completion of this course students will have acquired the ability to:

- CLO1. Describe the basic concepts and fundamental principles of Total Quality management. ***C1***
- CLO2. Explain the prominent philosophies of quality management that provide a basis for today's quality management in an organization. ***C3***
- CLO3. Illustrate the application of a variety of tools that are used for the performance measurement and improving the quality of products/services. ***C2***
- CLO4. Interpret the basic frameworks to develop a strategy for implementing total quality management in an organization with reference to ISO 9000 family of standards. ***C3***

(The references within parentheses are to domain and levels in the Revised Bloom's Taxonomy)

Mapping of CLOs to Program Learning Outcomes (PLOs)

Semester	Course Code	Title	Course Learning Outcomes	PLO 1 Engg . Knowledge	PLO 2 Problem Analysis	PLO 3 Solution Design	PLO 4 Investigation	PLO 5 Mod. Tool Usage	PLO 6 Engr. & Society	PLO 7 Env. & Sust.	PLO 8 Ethics	PLO 9 Team Work	PLO 10 Communication	PLO 11 Proj. Mgmt.	PLO 12 Lifelong Learning
Seventh	IE 407	Total Quality Management	CLO1	✓											
			CLO2		✓										
			CLO3			✓									
			CLO4				✓				✓				

Learning Methodology

Classroom lectures, problem solving exercises.

Grade Evaluation Criteria

Component	Marks
Quizzes	25
Mid-Term Exam.	25
End-Term Exam.	50
Total	100

Textbook

Besterfield, Dale H., and others. 2019. *Total Quality Management*, 5th edition. Pearson Education India. ISBN: 978-93-530-6631-4

Supplementary Books

Besterfield, Dale H. 2013. *Quality Improvement*, 9th edition. Pearson.

Oakland, John S. 2014. *Total Quality Management and Operational Excellence*, 4th edition. Routledge. ISBN-10: 0415635500. ISBN-13: 978-0415635509.

Calendar of Course Contents

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Week	Topics	Textbook Chapter	CLO#
1	Understanding and defining quality and its dimensions. Evolution of TQM thinking. Historical review. Model and framework for total quality management.	1	1
2	Principles and practices of total quality management. Overview of TQM tools and techniques.	1	1
3	Leadership and commitment for quality. Characteristics of quality leaders. The 7 habits of highly effective people. The Deming philosophy.	2	2
4	Planning for the implementation of TQM. Quality council, core values, concepts and framework. Quality statements. Strategic planning for quality.	2	2
5	Customer satisfaction. Customer perception of quality. Customer feedback. Service quality.	3	2
6	Employee involvement. Motivation. Teams.	4	2
7	Principles of customer/supplier relations. Partnering. Supplier certification. Supplier rating. Relationship development.	6	2
8	Continuous process improvement. The Juran trilogy.	5	3
9	Mid-term Examination		
10	The PDSA cycle. Kaizen. Six-sigma.	5	3
11	Performance Measures. Cost of quality. Balanced scorecard.	7	3
12	Malcolm Baldrige National Quality Award. Deming Prize. European Quality Award.	7	3
13	Quality management systems. ISO 9000 family of standards. ISO 9000:2015. ISO 9001:2015 requirements.	10	4
14	ISO 9001 implementation. ISO 9001 documentation. ISO 9001 internal audits. ISO 9001 registration.	10	4
15	Review for end-term examination		
End-Term Examination			

Mapping of CLOs to Direct Assessments

CLOs▼	Quiz 1	Quiz 2	Quiz 3	Quiz 4	Quiz 5	Midterm Exam	Final Exam
1	✓					✓	✓
2		✓	✓			✓	✓
3				✓			✓
4					✓		✓