Course Title:	Total Quality Management
Course Code:	OM460
Prerequisites:	OM345 (Operations Management)
Department:	Operations and Supply Chain

HSM Vision

HSM envisions its success in the sustainable contribution that it will make to the industry, academia and research in public and private sector. HSM will lead by providing professionally competent and ethically conscious human resources engaged in the global and local context to foster socio-economic growth and sustainability for the society. HSM envisages having faculty with high research potential and a deep desire for cutting edge research including collaboration with national and international partners.

HSM Mission

Being a research-oriented and student-centric business school, we emphasize research publications in impact journals as well as state-of -the-art learning methodologies. We will prepare our students to become the future ethical business leaders and the guiding post for the society, while equipping them with the knowledge and skills required by world-class professionals. We will be the leading choice for organizations seeking highly talented human resource. HSM will foster internationalization with key stakeholders and actively work to exchange best practices with business schools across Pakistan through collaborations, workshops, conferences and other means.

CAPSULE STATEMENT

"Total Quality is a people focused management system that aims at continual increase in customer satisfaction at continually lower real cost. Total Quality is total system approach (not an area or program) and an integral part of high level strategy; it works horizontally across functions and departments involves all employees, top to bottom and extends backward and forward to include the supply chain and the customer chain. It stresses learning and adaptation to continual change

as keys to organizational success"(Evans & Lindsay, 2007)*.* TQM practices lead to the reduction of waste, the increase in product and service quality, total customer satisfaction, and ultimately, the strengthening of competitive advantage. This course will present the various TQM frameworks, concepts, and quality improvement tools necessary for implementing the quality culture that characterizes world-class organizations of the 21st century. The first few sessions of the course will focus more on the philosophies and practices that serve as the theoretical foundation for planning and implementing a TQM program. In later part of the course we will focus on the tools and statistical techniques that could be used to support & improve an ongoing TQM program. Students will learn to view quality from a variety of functional perspectives and in the process, gain a better understanding of the problems associated with improving quality, also quality tools utilized in service and international/environments.

LEARNING OBJECTIVES

By the end of this course, you should be able to:

1. Understand & apply principles of quality management (QM).
2. Learn to apply problem solving & process improvement techniques of QM.
3. Have an introductory knowledge of statistical quality tools and techniques
4. Assess exactly where an organization stands on quality management with respect to the ISO families of international standards.
5. Develop a strategy for implementing TQM in an organization.

LEARNING METHODOLOGY

Lectures	In-class Skill Development Exercises	Textbook
Case Studies	Presentations	Industrial Trip

COURSE ASSESSMENT

Quizzes	10%
Assignments & Cases	10%
Participation	10%
Presentations	5%
Midterm	15%
Project	20%
Final Exam (Comprehensive)	30%

TEXT BOOK   (Mandatory)

Total Quality Management (3rd Edition) by *Besterfield, Michna, Besterfield and Sacre*

ADDITIONAL REFERENCES

1. *The Management and Control of Quality.* 6th ed. By Evans, James R., and William M. Lindsay

2. *Introduction to Statistical Quality Control.* 6th ed. By Douglas C. Montgomery

3. *Juran's Quality Control Handbook.* 5th ed. By Juran, Joseph M., and Frank M. Gryna.

4. *Six Sigma and Beyond* by D H Stamatis.

5. *Total Quality Management* by John Oakland 6th ed.

USEFUL LINKS

Pakistan Institute of Quality http://www.piqc.com.pk/

National Productivity Organization http://www.npo.gov.pk/default.asp

Malcolm Baldrige National Quality Award http://www.quality.nist.gov/

European Society For Quality http://www.efqm.org/en/

Journal of Quality and Technology Management http://www.pu.edu.pk/iqtm/journal/index.html

The TQM Journal http://www.emeraldinsight.com/journals.htm?issn=1754-2731

International Journal of Quality and Service Sciences

http://www.emeraldinsight.com/journals.htm?issn=1756-669X

International Journal of Quality & Reliability Management

http://www.emeraldinsight.com/journals.htm?issn=0265-671X

International Journal of Quality Science http://www.emeraldinsight.com/journals.htm?issn=1359-8538&PHPSESSID=vsear2h2sg6vl53ltefr9aso35

LIST OF QUALITY RELATED JOURNALS ON EMERALD

http://www.emeraldinsight.com/browse.htm?content=journals_books&by=subject&subject=85&type=journals

Total Quality Management (OM-460)

CLASS POLICY

PARTICIPATION

Each participant is expected to participate fully in class discussions. You are expected to contribute significantly to in-class analysis and discussion of readings and case studies.

Ways to effectively contribute include:

Responding to questions.

- Asking questions that lead to revealing discussions
- Presenting alternative positions, ways of looking at problems
- Providing extensions, e.g., novel application of a tool or technique
- Providing illustrations, e.g., examples of "real world" applications.

Disruptive behavior such as talking during the class without permission, coming late, leaving class during discussion or lecture and using mobile phones in class will count as negative participation.

TEAM WORK

Teamwork plays a very important role in implementation of quality management practices. It is also an important part of your learning experience and you are expected to learn how to do tough assignments in teams *(not necessarily chosen by you)* and meet the deadlines and quality standards. Teams of no more than 4 members will be finalized before the end of *third week*. There might be different teams for different types of tasks. The assignments, projects and presentations during the course will be based on the teamwork unless otherwise specified. Once formed participants will not be allowed to change their team without the resource person's permission. It is recommended that all students should equally participate in the group assignments in order to avoid undue burden on some group members. In case unequal work distribution is found in the group tasks; marks will be awarded **on the basis of team performance**. If due to any reason any member of the group is unable to participate in the assignment, it is suggested that this member should contact me BEFORE the class.

ORAL PRESENTATIONS

Each group will be asked to present a topic before the class at least once during the course. The topics of these presentations will be provided by the resource person. Minimum 15 minutes will be allowed for each presentation. Students are encouraged to use visual aids (power point slides, handouts etc) for these presentations. **A hardcopy of the presentation (in handout format) is to be handed to the resource person before the presentation**. A soft copy of the presentation should be mailed to the resource person ***1 day before the presentation***. You are encouraged to show and discuss your presentation with me before the class. So that shortcomings on the day of presentation can be avoided.

ASSIGNMENTS & CASES

Group and individual assignments/cases will be assigned related to each session. These assignments are to be submitted in the beginning of the next session. Assignments should be handed in typed format using the standard front page. In case an assignment requires analysis using Excel, soft copy of the Excel file (only) would also be a part of submission. In such cases you will email the assignment to my email address BEFORE the class. On the day of assignment submission you need to bring the softcopy of the assignment to the class in your USB drive in case you are asked to demonstrate the tools that you have learned through the assignment. Failing to do so would mean *failure to submit the assignment.*
No submissions would be allowed after the class on submission day.

FINAL PROJECT

Teams are required to submit the final project by **12th session**. Final presentations for the projects will be held in the 15th session. The project will be related to evaluation of quality management systems prevalent in Pakistani industry. Guidelines for the project can be downloaded from the course webpage. The detailed discussion regarding the project will be done in 5th session. Detailed progress evaluation regarding your project will be done in the 8th session.

QUIZZES

1. Quizzes are taken unannounced
2. From a total of (n) quizzes, best (n -1) quizzes may be considered for the final grade.
3. No make-up quizzes will be allowed.

USE OF MOBILE PHONES AND OTHER ELECTRONIC DEVICES

1. Use of mobile phones and any other electronic device (except calculators) is prohibited during the class time.

2. All mobile phones should be turned-off and secured in pockets or bags during the class time, and may not be used for ANY purpose, including calculations, time-keeping, etc

EMAIL

In order to contact me through email please use email addresses with your name. In case you do not have such address, please make one for this course. All emails from my side to you will be send on your official UMT address.

COUNSELING HOURS

Counseling hours will be displayed on the office door after the first week. Please follow the displayed timings for your visits. In case you need time other than the counseling hours, you may take the appointment through email. Early consultation regarding any issues related to the course is always more beneficial.

OM-460: Course Contents

Week	Contents	Reading	Learning Objectives	Assessment
1	**Introduction to Quality & Total Quality Management** Definitions of Quality, History of Quality, Quality Gurus, Quality & Competitive advantage. QM as the system of Culture, Tools & Techniques	Besterfield-1	Defining Quality, Evolution of Quality Concepts, Understanding the contributions of Gurus of the field, How TQM can provide Competitive Advantage.	
2	**Quality Practices** **Leadership & Strategic Quality Planning** Leadership concepts and implementation, Role of TQM leaders, The Deming Philosophy	Besterfield-2	Understanding of different leadership perspectives, Strategy building with Quality perspective.	Class Activity
3	**Quality Practices** **Focus on Customer Satisfaction** **Employee Relations** **Supplier Quality Management** **Quality Tools & Techniques** Customer relationship management, Employee empowerment & Involvement, Job design, Supplier ratings, building deep supplier relations	Besterfield-3,4,6	Understanding the; Types of customer, Customer perception of Quality, Role of complaints in quality improvement. Scope of HRM, Role of Quality Circles and other teams in Quality improvement, the importance of good supplier relationships in Quality management	Presentations Assignment Case Discussion
4	**Quality Practices** **Continuous Process Improvement** **Performance Measurement** **Quality Tools & Techniques** BPR, Kaizen, POKA YOKE, Cost of quality analysis	Besterfield-5,7	Understanding the; Problem solving methodology, Concepts like PDCA cycle, Kaizen, Business Process Reengineering, Poka Yoke, Importance of PM, Different techniques of PM, Cost of Quality	Presentations Assignment

5	**Quality Tools & Techniques** **7 Quality Control Tools** Check Sheets, Pareto Diagrams, Process Flow diagrams, Scatter Diagrams, Cause & Effect Diagrams, Histograms	Besterfield-18	Developing a basic understanding of development and interpretation of tools for process improvement	Presentations Assignment Case Discussion
6	**Quality Tools & Techniques** **7 Quality Control Tools** *Contd* Red Beads Experiment *Review of Basic statistical concepts*	Besterfield-18	Understanding the role of variation in process management. Developing a basic understanding of measures of central tendency and probability.	Class Activity
7	**Quality Tools & Techniques** **7 Quality Control Tools** *Contd* **Statistical Process Control** Control charts: X Bar Charts, R charts, and Attribute control charts.	Besterfield-18	Understanding the Basic Statistical tools for quality management, Identifying which tools are suitable for different situations, Prepare different control measures.	Class Exercise
8	**MIDTERM EXAM**			
9	**Quality Tools & Techniques** **Process Capability Analysis** Process Capability index, ratio. Developing Tolerance limits for the process.	Besterfield-18	Prepare & Learn to apply: Different Process Capability Measures	Class Exercise Assignment
10	**Quality Culture** **Quality by Design** **Quality Tools & Techniques** **Quality Function Deployment** Benefits, House of Quality, Building HOQ **Total Productive Maintenance (TPM)**	Besterfield-12,13,16	Understanding the Basics of design issues in Quality, Learn to develop & use house of Quality. Understand the philosophy & implementation issues related to TPM	Presentations Assignment Class Exercise

11	**Quality Tools & Techniques** **Failure Mode & Affect Analysis** Reliability, Failure rates, liability **Taguchi's Quality Engineering** **Benchmarking** Definition, What to Benchmark, learning from the data. Process of Benchmarking	Besterfield-8,14,15,20	Learn to remove failures from the process in design phase. Develop reliability function, predict reliability of the products. Application of loss function. Understanding the purpose and process of benchmarking for quality improvement	Case Exercise
12	**Quality Tools & Techniques** **7 Advanced Quality Control Tools** Affinity Diagram, Interrelationship Diagram, Matrix Diagram, Prioritization Matrix, PDPC, Activity Network Diagram	Besterfield-17,19	Use of advanced QT for process planning and analysis	Presentations Case Discussion Assignment
13	**Quality Management Frameworks** Malcolm Baldrige Award, Deming Prize, ISO Series; ISO 9000, 14000 (environment), 26000 (social responsibility)	Besterfield-10,11	Developing basic understanding of different Quality systems, and analyzing the benefits and challenges in implementation	Presentations
14	**INDUSTRIAL TRIP Implementation issues in Quality Initiatives in Pakistani Industry**	Handouts	Observing Implementation of Quality Management Practices in Pakistan.	
15	**PROJECT PRESENTATIONS**			