



Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

Quality Management MAS ETH MTEC (Elective Course) – Syllabus Fall 2014 –

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Objectives

This course will provide students with the underlying principles and techniques surrounding Quality Management with an emphasis on the application in manufacturing and services settings. Students will develop a working knowledge of the best practices in Quality and Process Management. 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. The course aims to impart knowledge on the quality management process and key quality management activities. Specifically it aims to: Compare and contrast the various tools used in quality management, comprehend the concepts of customer's value, discuss the emerging tendencies toward global competitiveness, understand different perspectives on quality, explore six-sigma management and its tools, demonstrate how to design quality into product and services, describe the importance of developing a strategic plan for Quality Management, and discuss the importance of "benchmarking" as a means of identifying the choice of markets.

Organization

Only regular ETH students and ETH exchange students will be admitted to the course. Participants should have a *solid knowledge of general management*; however, it is not required. Class sessions consist of lectures as well as extensive discussion of cases. Additionally, there will be in-class exercises where performance will be evaluated; therefore, attendance is highly encouraged.

Individual case study write-ups. Each student submits case write-ups (max. 2 pages; Font: Times, 12pt). They have to be turned in (*hard-copy*) prior to the beginning of class and will be evaluated.

Case study presentation. In class, each case is also presented and analyzed by two (or three) groups of students. The members of the presenting groups *do not* submit individual write-ups. Performance will be evaluated based on the team's delivery of the material, discussion, and presentation slides. Slides (Powerpoint or LaTeX Beamer format – no pdf!) have to be sent *by email* beforehand.

Class participation. Throughout the class students have the opportunity to provide input and contribute to the class discussions. Both, the *quantity* and *quality* of comments, opinions, questions, and insights will be considered. Without class attendance, students will not be able to score on "participation!"

Grades

The final course grade will be a weighted average of the following:

Case studies (individual performance)	25%
Case study presentation (group performance)	25%
Written exam (semester end)	50%
Total	100%

Class/Case participation: Up to 10% extra credit

Class sessions (subject to modifications)

Wednesdays, 5 – 7pm, Room HG E.33.1, 14 sessions

Date	Module	Topic
Part I: The Quality System		
1 17.09.13	Introduction	
	Module 1	Introduction to Quality Management: Why should we care?
	Module 2	Total Quality in Organizations
2 24.09.13	Module 3	Philosophies and Frameworks
Part II: The Management System		
3 01.10.13	Module 4	Focusing on Customers
4 08.10.13	Module 5	Leadership and Strategic Planning
	Module 6	Human Resource Practices
6 22.10.13	Module 7	Process Management
7 29.10.13	Module 8	Performance Measurement & Strategic Information Management
9 12.11.13	Module 9	Building and Sustaining Total Quality Organizations
Part III: Six Sigma and the Technical System		
10 12.11.13	Module 10	Principles of Six Sigma
	Module 11	Statistical Thinking & Applications
11 26.11.13	Module 12	Design for Six Sigma
12 03.12.13	Module 13	Tools for Process Improvement
	10.12.13 Module 14	Statistical Process Control
14 17.12.13	Review	<i>Exam Review</i>

Course material and readings

All course material can be downloaded from: <http://www.scm.ethz.ch/teaching/Courses/FS14/QM/>.

This course will not use a mandatory text book! The following book is *supplementary*:

Evans, James R. and Lindsay, William M. (eds.) (2012): *Managing for Quality and Performance Excellence*, Ohio, United States: Cengage Learning.

Quality Management Extended Schedule

September 17 through December 17, 2014

Date (2014)		Module	Assigned Cases / Readings (Cases are due/discussed on the day posted)	Presentations (Tentative)
Sept	17	Syllabus & Introduction		
		Module 1/2		
	24	Module 3	Case - Gerber (In-Class)	
Oct	1	Module 4	Case – Medical Devices (In-Class)	
	8	Module 5	Mgt. Planning Tools / Leadership Theories	
	15		Case - Quality in Practice (Assigned)	Teams 1, 2, 3
	22	Module 6/7	Self-Managed Teams (<i>Leadership Exercise</i>)	
	29	Module 8		
Nov	5		Case - Deere & Company (Assigned)	Teams 4, 5, 6
	12	Module 9	Case - Equipto Inc. (In-Class)	
	19	Module 10/11	(<i>Measurement Exercise</i>)	
	26	Module 12	(<i>Reliability Exercise</i>)	
Dec	3	Module 13/14	(<i>Measurement Exercise Revisited</i>)	
	10		Case – Xerox (Assigned)	Teams 7, 8, 9, (10)
	17	Final Exam Review Week		