The Hong Kong University of Science and Technology
Department of Information Systems, Business Statistics and Operations Management
Fall 2016-2017 ISOM 3730

Name of course: Quality and Process Management

Number of credits: 4 credits

Prerequisites: This is a required course for OM students. There is no specific prerequisite except that students should be experienced in basic statistics (as covered in ISOM 2500).

Class meetings:

L1	Tue, Thu 4:30 - 5:50 pm	LSK 1001
L2	Wed, Fri 3:00 - 4:20 pm	LSK 1011

Tutorials:

T1	Mon 9:30 – 10:20 am	LSK 1011
T2	Mon 6:00 – 6:50 pm	LSK 1034

The first session to be started during the week of Sept 19.

Instructor: Dr. Ki Ling Cheung Office – LSK 4021
Phone - 23587737 Email: imcheung@ust.hk
Office hours: Tue 9:00 to 10:00 am or by appointment

Teaching assistant: Angel Ka Yan So Office – LSK 6031
Phone – 23585728 Email: imso@ust.hk
Office Hours: Fri 11:00 am – 1:00 pm or by appointment

Course objective:
The objective of the course is to provide a systematic survey on the theory and implementations of quality control and management activities for different industries (mainly manufacturing and service). The concepts and methodologies of quality management can be implemented by the students in their future careers.

Intended learning outcomes:
At the end of this course, students should be able to:
1. Identify and analyze some of the most important problems in quality management in different industries; (ILO 1, 4)
2. Create quality management solutions that have been used in practices; (ILO 1, 4)
3. Apply a strategic quality management perspective to different companies. (ILO 1, 4)

This course also provides students with the opportunities to develop their abilities to:
4. Work effectively in a team and lead a team; (ILO 5)
5. Work with other functions in making quality improvement; (ILO 3)
6. Communicate effectively in oral English in assigned task contexts. (ILO 2)

Projects:
You are expected to organize a team of 4 members. Please submit the names of your team to the TA via email by the end of September. During the semester your team

will conduct two projects. Each project is about a company's quality problem. You have to provide analysis and recommendations for the company. A 10-minute presentation should be delivered.

Examinations:
All quiz and exam are open book/notes. The quiz will be held on October 13 7:00 – 8:00 pm. The final exam covers everything taught after the quiz.

Assessment Scheme: Your course grade is determined by

Two projects	25 %	50 points
Quiz	25 %	50 points
Final exam	50 %	100 points
Total	100%	200 points

Textbook: S. Thomas Foster, "*Managing Quality Integrating the Supply Chain*", fifth edition, Thomson (2013). The textbook is *required* rather than optional, and is available at the University bookstore.

Cases and lecture notes:
Please visit the web site in canvas for downloading cases and lecture notes. Five cases are used in this course. There are also two simulation games.
1. Samsung Electronics: Analyzing Qualitative Complaint Data
2. Tamago-ya of Japan: Delivering Lunch Boxes to Your Work
3. Comtec Electronics (A)
4. Benihana of Tokyo
5. Uber: Competing as Market Leader in the US versus Being a Distant Second in China

Laptop Policy: Your laptop should only be used for class activities such as working on an in-class simulation, taking notes, or referring to a spreadsheet. You should not conduct any non-class activities such as social networking or web surfing in class, and turn off your smartphone.

Course Schedule (Lecture 1)

Part 1	**Introduction to Quality**
Sep 1	Orientation and introduction
	Reading: *History of Quality Management* Page 52
Sep 6	What is quality?
	Reading: Pages 27-29
Part 2	**Implementing Quality**
Sep 8	Graphical tools of quality
	Reading: Pages 263-279
Sep 13	Samsung Electronics case
Sep 15	No class (Synchronized with L2)
Sep 20	Quality cost
	Reading: Pages 116-120
Sep 22	Statistical process control
	Reading: Pages 300-316, 320-322
Sep 27	Statistical process control

	Reading: Pages 338-348
Sep 29	Process capability analysis and six sigma
	Reading: Pages 361-366
Oct 4	Quality analytics simulation (Bring notebook computer)
Oct 6	Acceptance sampling
Oct 11	Economics of acceptance sampling
Oct 13	No class (Quiz)
Oct 18	Quality theory
	Reading: *Leading Contributors to Quality Theory: W. Edwards Deming* Pages 52-57
	Leading Contributors to Quality Theory: Kaoru Ishikawa Pages 60-61
	Viewing Quality Theory from a Contingency Perspective Pages 67-71
Part 3	**Designing, Managing and Assuring Quality**
Oct 20	Service quality and gap analysis
	Reading: Pages 29-30, 140-142, 213-224
Oct 25	Quality control in service industry: Tamago-ya case
Oct 27	Quality function deployment
	Reading: Pages 187-191
Nov 1	Reliability
	Reading: Pages 349-354
Nov 3	Quality control in semiconductor manufacturing: Comtec Electronics
Nov 8	Project Presentation: Benihana of Tokyo
Nov 10	Project Presentation: Benihana of Tokyo
Nov 15	Benihana simulation game (Bring notebook computer)
Nov 17	Benihana simulation game (Bring notebook computer)
Nov 22	Project Presentation: Uber Case
Nov 24	Project Presentation: Uber Case
Nov 29	Review for final

Course Schedule (Lecture 2)

Part 1	**Introduction to Quality**
Sep 2	Orientation and introduction
	Reading: *History of Quality Management* Page 52
Sep 7	What is quality?
	Reading: Pages 27-29
Part 2	**Implementing Quality**
Sep 9	Graphical tools of quality
	Reading: Pages 263-279
Sep 14	Samsung Electronics case
Sep 16	Holiday
Sep 21	Quality cost
	Reading: Pages 116-120
Sep 23	Statistical process control
	Reading: Pages 300-316, 320-322
Sep 28	Statistical process control
	Reading: Pages 338-348
Sept 30	Process capability analysis and six sigma

	Reading: Pages 361-366
Oct 5	Quality analytics simulation (Bring notebook computer)
Oct 7	Acceptance sampling
Oct 12	Quiz
Oct 14	Economics of acceptance sampling
Oct 19	Quality theory Reading: *Leading Contributors to Quality Theory: W. Edwards Deming* Pages 52-57 *Leading Contributors to Quality Theory: Kaoru Ishikawa* Pages 60-61 *Viewing Quality Theory from a Contingency Perspective* Pages 67-71
Part 3	**Designing, Managing and Assuring Quality**
Oct 21	Service quality and gap analysis Reading: Pages 29-30, 140-142, 213-224
Oct 26	Quality control in service industry: Tamago-ya case
Oct 28	Quality function deployment Reading: Pages 187-191
Nov 2	Reliability Reading: Pages 349-354
Nov 4	Quality control in semiconductor manufacturing: Comtec Electronics
Nov 9	Project Presentation: Benihana of Tokyo
Nov 11	Project Presentation: Benihana of Tokyo
Nov 16	Benihana simulation game (Bring notebook computer)
Nov 18	Benihana simulation game (Bring notebook computer)
Nov 23	Project Presentation: What Really Happened to Toyota?
Nov 25	Project Presentation: What Really Happened to Toyota?
Nov 30	Review for final

Caveat The instructor may modify the syllabus if deemed necessary.