

**UNIVERSITY OF NORTHERN BRITISH COLUMBIA
COLLEGE OF SCIENCE & MANAGEMENT
SCHOOL OF BUSINESS**

COMM 450

Fall-2010

Total Quality Management (TQM)

(PRE-REQUISITE = COMM 350 or ECON 205 or MATH 242 or Equivalent)

Instructor: Dr. Balbinder S. Deo

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Class Schedule:

Class Times:	Tuesday & Thursday	Class Room
Section A1	11.30 AM -12.50 PM	5-173

Office Hours: Thursday and Friday from 1.00 PM to 2.00 PM or by making appointment/s

1. INTRODUCTION

In a contemporary business environment, business organizations try hard to win over customers on the basis of low cost, better quality and timely delivery of their products and services. To achieve this end, world-class companies work hard to reduce the cost of operations and also improve the quality of their products and services, improve delivery as and when required by customers in an environment friendly manner.

Improvement in the quality of products and services is getting the attention of management of all most all business organizations. The corporations that have been at the forefront of the quality are discovering that they are not doing enough and have realized that the quality is not only the responsibility of design and production departments but is also the responsibility of every one in the organization. Each and every department need to focus on the quality aspect for delivering the quality product / service to the customer.

Quality management related concepts, principles, and tools have been practiced at shop floor level for many decades but latest developments in quality management from various sides have made quality issue as a strategic issue for organizations. Therefore, it is important for students who is to manage the production and delivery of goods and services directly and indirectly to see the quality issue from strategic angle and also has to have the skills to contribute to the process of quality management where ever they are fitted in the organizational structure.

The principles of Total Quality Management learned in this course would be helpful to practitioners involved in management of operations in any functional areas such as Operations, Engineering, Marketing, Human Resource Management, Accounting and Finance etc. The conceptual framework learned in this course is pretty handy to find and solve quality related problems through systematic analysis of systems, plans, policies, processes, procedures and operations.

2.1 COURSE OUTLINE & OBJECTIVES

The course is designed for students to understand the nature of quality related problems and to find solutions in design, engineering, manufacturing, marketing, human resource, supply chain, and even in accounting, and finance functions of organizations. It is related to both profit and non-profit type organizations. The course includes the basic concepts and tools of Total Quality Management (TQM), strategic quality planning, quality management and improvement process, quality in design, engineering, and in supply chain, loss function and quality level, common quality tools and their use, quality and operations results, Taguchi methods, just in time, preventive maintenance and other aspects of quality management.

The main objective of the course is to introduce students to the concepts and principles of TQM and their application for improving quality. In addition to that students will also be able to use some of the specific tools and techniques to identify, analyze and solve some quality management related problems and cases by generating suitable set of solutions.

2.2 Course Material

The course material will be in the form of;

- Some peer reviewed research papers published in scholarly journals (To be collected by students working in a team under the instructors guidance)
- Standard text book materials
- Brief class lecture outlines
- Cases / problems / Videos

2.3 Course Delivery

The course will delivered by the use of;

- Videos clips – Use of TV
- Brief notes- to be downloaded from the Blackboard - useful in class lectures
- Class lectures- By Instructor
- Case studies- By Student teams (Instructor as facilitator)
- Problems solving exercises-By Individuals / Team of students/ Instructor
- Assignments –By Individuals / Team of students
- Project report and presentations – By teams in consultation with the instructor. Class presentations by teams as per schedule (To be scheduled later in the session)

2.4 Resources Required

- Access to UNBC' Blackboard and internet for communication among students and instructor
- Access to UNBC Library (Including remote access) resources and reference material
- Access to computer and projector in class room for lectures and presentations

(Students are required to make arrangements for log-in to Blackboard for information and feedback. The outline of the topics to be discussed in class will be posted on Blackboard at least about two days before each lecture. This information may be handy in getting ready for class, making brief notes (if needed), and for solving problems.

In addition students need to have a text book for ready reference. The following books have been listed.

Text Book

- Managing Quality – Integrating the Supply Chain, S. Thomas Foster, Prentice Hall, 2010.

Other Ref Book:

Operations Management (Seventh Edition), Jay Heizer and Barry Render, Prentice Hall, 2005 or later edition or any other book on Production management that has simple and easy to understand quality related concepts.

In addition to text material there will be cases and other relevant material that would be provided to students ahead of their class schedules.

3.1 COURSE EVALUATION:

Attendance & participation	10%
Homework assignments	10%
Project:	25 %
Summaries & Report	20 %
Presentation	05 %
Mid-term exam	25 %
Final exam	30 %
Total	100%

3.2 GRADING SYSTEM: Grading System (see Page 59 of Undergraduate Academic Calendar)

<u>Excellent</u>	A+	=	90-100
	A	=	85-89.9
	A-	=	80-84.9
<u>Good</u>	B+	=	77-79.9
	B	=	73-76.9
	B-	=	70-72.9
<u>Satisfactory</u>	C+	=	67-69.9
	C	=	63-66.9
<u>Marginal</u>	C-	=	60-62.9
	D+	=	57-59.9

	D	=	53-56.9
	D-	=	50-52.9
<u>Failure:</u>	F	=	0-49.9

3.3 FORMAT OF MID-TERM & FINAL EXAMS:

The format of midterm and final exams is as follows:

Each exam will be having three main parts.

- **Part A-** Short answer type questions (About 20 –30 % weight)
- **Part B** –Problems to be solved (About 30-40 % weight)
- **Part C-** Cases to be discussed (About 30 -40 % weight)

A list of short answer type questions and problems for solutions will be available for downloading from Blackboard for practice before exams.

3.4 PLAGIARISM & ACADEMIC MISCONDUCT

It is the student's responsibility to be aware of UNBC's **Academic regulations, policies and procedures as described in the University calendar.**

Please refer to Academic Regulation 44 of the UNBC calendar: **44. Academic Offenses**

Any conduct that violates the ethical or legal standards of the University, particularly those related to academic honesty, is a serious offense. Informal means to resolve complaints of academic dishonesty may be used. If such means are unsuccessful or inappropriate, the formal processes set out in these Regulations are to be followed. An impartial committee, the Senate Committee on Academic Appeals, provides for complete examination of the complaint or allegations. The minimum sanction for an academic offense includes reprimands and reduction of grades; the maximum sanction is suspension from the University (see Academic Regulation 45 (Academic Sanctions)). Such offenses include, but are not limited to the following:

- a. **Plagiarism:** Plagiarism occurs when a student submits or presents work of another person in such a manner as to lead the reader to believe that it is the student's original work; self-plagiarism is the submission of work previously submitted for academic credit without prior approval of the current course instructor. This offense includes using citations which have been designed in order to mislead the reader as to the nature or authenticity of the source.
- b. **Cheating:** Cheating takes numerous forms and includes, but is not limited to the following: copying from another student's work or allowing another student to copy from one's own work; obtaining a copy of an examination before it is officially available; misrepresenting or falsifying references, citations, or sources of information; knowingly recording or reporting false empirical or statistical data; and possession of notes, books, diagrams or other aids during examinations that are not authorized by the examiner (See Regulation 38(a)).

- c. **Submitting False Records:** Submitting false medical or criminal records, transcripts, or other such certificates or information, under false pretences.
- d. **Withholding Records:** Non-disclosure of previous attendance at a post-secondary institution, and of the transcript of record pertaining thereto, or of other documentation required by the University.
- e. **Misrepresenting One's Own Identity:** Impersonation or the imitation of a student in class, in a test or examination or class assignment is a breach of academic honesty. Both the impersonator and the individual impersonated may be charged.
- f. **Falsification of Results:** The falsification of laboratory and research results.
- g. **Submission of False Information:** The submission of false or misrepresented information on any form used by the University or an agent thereof.
- h. **Submitting Academic Work Twice for Credit:** Unless prior written and signed permission is obtained, submitting for credit any academic work for which credit has previously been obtained or may be sought in another course or program of study in the University or elsewhere. This includes, for example, materials such as library research papers posted on the World Wide Web.
- i. **Aiding or Abetting** any of the above academic offences.

Students should also be aware of the sanctions where academic offences have been established to have taken place. Sanctions include:

- a. **Reprimand:** This is a written warning to a student from the Instructor, Program Chair or the Dean of the College that the student's behavior is considered unacceptable to the University.
- b. **Reduction of Grade:** A reduction of grade may be applied to an examination, test, or assignment to which an offense is relevant and will be decided upon by the instructor, in consultation as may be appropriate with the Chair or Dean. Policies with respect to re-grading and review of assignments or exams are under the direction and purview of the Program Chair.
- c. **Probation:** In addition to any other penalty which may be applied, the Dean of a student's College may place a student on probation, or may prohibit the student from taking a course or courses, or may recommend suspension, either for a specified period or indefinitely, to the President.
- d. **Suspension:** A student's Dean may recommend suspension, either for a specified period or indefinitely, to the President. On the recommendation of the Dean, the President may suspend a student from the University, either for a specified period or indefinitely. Prior to the President's decision becoming final, the student will be informed in writing of the recommendation. The student will be given 15 working days following such notification to lodge an appeal before the President's final decision becomes effective. Any such appeal must be made in writing to the Administrative Registrar and will be reviewed by the Senate Committee on Academic Appeals (SCAA).

3.5 DISABILITY SERVICES

"If there are students in this course who, because of a disability, may have a need for special academic accommodations, please come and discuss this with me, or contact Disability Services."

3.6 ACADEMIC ADVISING

For academic advising please contact Amelia Kaiser at 960-6494. Her e-mail address is kaiser@unbc.ca

4.1 CLASS

Students are advised to be punctual and are encouraged to respect the class discipline. Students are encouraged to ask questions and to discuss the relevant issues in such a way that it involves the whole class.

4.2 ATTENDANCE, PARTICIPATION AND CLASS DISCUSSIONS:

Students are expected to be aware of the contents of the topics to be discussed in the class. It is the responsibility of the student to keep track of the issues that are already discussed in the class. Participation and attendance marks will be based on punctuality, positive contribution of students to enrich class discussions, respect for others in the class, class discipline, and attendance.

5.1 ASSIGNMENTS:

Teacher will announce assignment/s in the class from time to time. It is the responsibility of a student to enquire about an assignment/s if he/she misses a class due to any reason/s. Completed assignments are to be submitted in the beginning of the class on the due date.

There is a possibility of two home assignments to be given (One before the mid-term and the other after the mid-term) for solving at home. Assignment/s submission date and time will be discussed and announced in the class. Assignment/s problems will be selected from the text and other related sources. **Late assignment submission may be accepted with penalty, but prior permission is required from the instructor. Completed assignments help students to get ready for exams.**

Assignment/s solutions will be marked on the basis of systematic step-by-step mechanism shown leading to the solution. **Systematic step-by-step mechanism leading to the solution is more important than the final answer/s.** Students are encouraged to ask questions about assignment problems if they get stuck. Students are encouraged to discuss the assignment, after it is marked, during office hours.

Note: Numerical problems solved in assignments may be very helpful in examinations.

6. PROJECT

In addition to assignments, students are required to work on projects. Project work is a team work. Students are encouraged to pick members of their team from the class. There should be 3-4 students in a team depending on the class size.

Each team is expected to work either on a research type or practical type of project. Team members are encouraged to choose 2-3 topics and discuss these topics with the instructor for the final approval to avoid duplication. The selection of the project should be completed by the end of the first week of classes. In the second week students are expected to be working on their projects.

Project topic may be related to Quality related issues in a local company, or it may be related to a new or an old product / service or it may be a research-oriented project in which each team is expected to collect articles published in peer-reviewed journals related to Quality. Students are encouraged to get guidance from the teacher or get help to find the peer-reviewed articles. **A team of 4 students is expected to collect 12 peer-reviewed research articles. Three articles by each member of the team related to the research topic selected.**

For each article, a student has to write the summary of the article, research objective/s of the article, and the reason/s to choose the research objective by the author, brief research methodology used, evidence found, and then conclusions drawn. Copies of the research papers in the summarised form are to be submitted to the instructor along with the copies of the original papers for instructor to have a look at.

After making summaries of the three articles, students are required to get together in the form of a team and share the findings of the papers (Studied and summarised) with their team members. Then all article summaries (12 for a team of 4 students) are to be synthesised in the form of a report in your own words.

The report should not be more than 10 pages long + References, Tables and Appendices if any. All references, tables and appendices should be properly referred to, in the text of the report. The project work is going to be evaluated in a broad sense on collection of right kind of information / articles, analysis of information, synthesis of information, proper citation of references in the body of the report, proper sequence of references, tables and appendices if any.

Students are expected to provide feedback about their projects/ teams, team work and seek guidance from their instructor from time to time. Teams are expected to complete their project reports by the First week of November 2010.

The contents of the report may have the following format:

- Title page with name and ID # of team members
- Table of Contents with page numbers
- Executive summary
- Introduction / Background Information
- Problem Statement if any
- Research methodology
- Data, Information and information analysis or
- Synthesis of information or your view point on the basis of information collected
- Recommendations / Conclusions if any

- References, Appendix and or Tables

A list of typical projects / research projects is provided below for choosing topic ideas.

Possible topics or topic ideas related to TQM for team assignments / projects:

1. Quality and politics of PAU-201 rice variety
2. Quality related problems of Toyota in recent years
3. Quality related problems with GM in recent years
4. Quality of food grains stored for distribution to poor people in India
5. Quality of Education & Research at UNBC
6. Quality of services in Prince George area (various kinds of services)
7. Quality and politics related to Ukrin (A cancer fighting drug)

****Final selection of the topic has to be done with the consultation of the instructor**

(A team of 4 students needs to find 12 recently published research based articles published in research journals if a team chooses a research topic based on journal articles only)

Project submission & presentation

Each team is required to submit and present their report in 15-20 minutes in the class. The report submission date is shown in the class lecture schedule. Students' project presentations (Use of power-point for presentation) schedule will be notified to the students in the class after all the reports are submitted. Team presentations by students will be adjusted in classes close to the end of the term.

It is mandatory for students to attend all class presentations (By students) because your participation is required in various ways during presentations.

7. DETAILED OUTLINE OF CLASS LECTURES:

Students are required to make arrangements for log-in to my WebCT/Blackboard for information and correspondence. The detailed outline of the structure of class lectures will be posted on it at least about two days before each lecture. This information may be handy in getting ready for class discussions, taking brief notes if needed, solving problems and getting ready for exams.

COURSE OUTLINE

NO.	TOPIC	CHAPTER
	<u>Introduction</u>	
1.	Introduction to Quality	Chapter 1
2.	Quality Theory	Chapter 2
3.	TQM –Integrating the Supply Chain	Chapter 3
4	International Quality Standards	Chapter 3
	<u>Designing & assuring quality</u>	
5	Strategic quality planning	Chapter 4
6.	Getting input from customers	Chapter 5
7.	Listening & evaluating the market / competitors	Chapter 6
8.	Quality and innovation in product design	Chapter 7
9	Quality and innovation in process design	Chapter 7
10	Quality and innovation in services design	Chapter 8
11.	Quality of suppliers and quality of their products	Chapter 9
	<u>Quality implementation and management</u>	
13.	Quality related tools available	Chapter 10
14.	Statistical tools for quality improvement (Variables)	Chapter 11
15.	Statistical tools for quality improvement (Attributes)	Chapter 12
16.	Six Sigma and other lean tools	Chapter 13
	<u>Developing & improving the quality system for continuous improvement</u>	
17.	Managing quality improvement teams	Chapter 14
16.	Managing quality improvement projects	Chapter 14
17.	Implementing the system	Chapter 15

***Section A1 -Tentative TQM Class Schedule Fall-2010 (Tuesday - Thursday)**

Lec #	Date	Topic	Videos / cases & other activities
1	Sep 09 (R)	Introduction to Quality	Video / Case
2	14 (T)	Quality Theory	Theory
3	16 (R)	TQM –Integrating the Supply Chain	Example /Problems / case
4	21 (T)	International Quality Standards	Video / case
5	23 (R)	Strategic quality planning	Theory/ case
6	28 (T)	Getting input from customers	Theory & Problems
7	30 (R)	Listening & evaluating the market / competitors	Theory / problems
8	Oct 05 (T)	Quality and innovation in product design	Video/ Case
9	07 (R)	Quality and innovation in process design	Videos / case
10	12 (T)	Quality and innovation in services design	Video/ case
11	14 (R)	Quality of suppliers and quality of their products	Theory & Problems
12	19 (T)	Mid-term Exam	
13	21 (R)	Quality related tools available (Summaries of two Research articles with copies of original articles due)	Video on Quality
14	26 (T)	Statistical tools for quality improvement (Variables)	Theory & Problems + case
15	28 (R)	Statistical tools for quality improvement (Attributes)	Theory & Problems + A case
16	Nov 02(T)	Six Sigma and other lean tools	Theory / problems
17	04(R)	Managing quality improvement teams	Theory & Problems + Case
18	09 (T)	Managing quality improvement projects (Team based Project Reports to be submitted to the instructor)	Theory & Problems
19	11 (R)	Remembrance day	University Closed
20	16 (T)	Implementing the system	Theory & Problems
21	18 (R)	Discussion on projects	Projects
22	23 (T)	Discussion on Projects	Projects
23	25 (R)	Discussion on projects	Projects
24	30 (T)	<i>Project Presentations by work teams in the class</i>	Attendance Mandatory
25	Dec 03 (F)	<i>Last day of classes</i>	Not available for TQM class

***There is a possibility of some changes in the Content & Class Schedule and the class will be informed about it.**

Balbinder S. Deo