KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS
DEPARTMENT OF CONSTRUCTION ENGINEERING AND MANAGEMENT

Course: CEM 515 Project Quality Management Spring **2010**

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Course Description (3-0-3)

The objective of this course is to expose students to Quality knowledge and Quality improvement methods. Includes discussion on Quality standards, Quality needs and overall strategic plans, customer satisfaction and focus, tools for Quality Project Management, Statistical process control, tools for continuous improvement, recent developments in Quality in Constructed projects, ISO standards, survey of computer application software related to quality management.

Prerequisite: Graduate Standing

Course Requirements

Assignments and quizzes	10%
Midterm exam	30 %
Project and presentations	20 %
Final Exam	40 %

Textbook: Gitlow, H., Oppenheim, A., Oppenheim, R and Levine, D,.**Quality Management**" Third Edition, McGraw-Hill, Boston, 2005.

Additional resources
http ://www .quality .org/
http :// deming:eng.clemson.edu.onlineq.html
http :// www .isixsigma.com/
http :// www.asq.org/perl/vqn/vqn_search.cgi
http :// www.maxwideman .com/

CEM 515
PROJECT QUALITY MANAGEMENT
COURSE OUTCOME

The student will be able to:

1. Define a process

2. Discuss variation and its causes in processes

3. Explain Deming theory of management

4. Define statistics and the two type of statistical studies

5. Define and document a process in an analytic study

6. Define probability.

7. Discuss the need for continual reduction of variation, even when the quality characteristic is within specifications

8. Discuss when to use the different types of attribute control charts

9. Distinguish between attribute data and variable data

10. Define and illustrate two types of special variation; periodic (between group) variation and persistent (with-in group) variation

11. To present and discuss diagnostic tools and change concepts to identify and eliminate special causes of variation and stabilize a process

12. Discuss the voice of the customer, or customer specification limits for the output of a process.

13. Present the basic concepts of experimental design

14. Discuss the three alternative inspection policies: no inspection; 100 percent inspection; and sampling inspection, or acceptance sampling.

15. define the six sigma management

No	Date	Topics	**Chapters**
1	26-Sep	General Introduction	
2	28-Sep	**Part One: Fundamentals of Quality Management** Fundamentals of Quality	Chapter 1
3	3-Oct	W. Edwards Deming's Theory of Management	Chapter 2
4	5-Oct	Fundamentals of Statistical Studies	Chapter 3
5	10-Oct	Defining and Documenting a Process	Chapter 4
6	12-Oct	**Part Two: Tools and Methods for Analytic Studies** Basic Probability and Statistics	Chapter 5
7	17-Oct	Basic Probability and Statistics	Chapter 5
8	19-Oct	Stabilizing and improving a Process with Control Charts	Chapter 6
9	24-Oct	Stabilizing and improving a Process with Control Charts	Chapter 6
10	26-Oct	Attribute Control Charts	Chapter 7
11	31-Oct	Attribute Control Charts	
12	2-Nov	**Midterm Exam (Chapters 1-6)**	Chapter 7
13	7-Nov	Variable control charts	Chapter 8
14	9-Nov	Variable control charts	Chapter 8
	10-NOV	Last day of classes before Id- Al-Adha vacation	
	22-Nov	Classes resume	
15	16-Nov	Variable control charts	Chapter 8
	23-Nov	Variable control charts	Chapter 8
16	28-Nov	Out-of-control Patterns	Chapter 9
17	30-Nov	Out-of-control Patterns	Chapter 9
18	5-Dec	Diagnosing a Process	Chapter 10
19	7-Dec	Diagnosing a Process	Chapter 10
20	12-Dec	Process Capability and Improvement Studies	Chapter 11
21	14-Dec	Process Capability and Improvement Studies	Chapter 11
22	19-Dec	Design of Experiments	Chapter 12
23	21-Dec	Design of Experiments	Chapter 12
24	26-Dec	Inspection Policy	Chapter 13
25	28-Dec	Inspection Policy	Chapter 13
26	2-Jan	Six sigma Management	Chapter 20
27	4-Jan	Six sigma Management	Chapter 20
28	9-Jan	Six Sigma Concept and application- **Mr. Husam Send Saudi Aramco**	
29	11-Jan	Real case study on how to successfully implement a six sigma to improve organization performance- **Mr. Husam Send Saudi Aramco**	
30	16-Jan	Quality Management-SABIC experience- **Yousef Al-Harbi**	
	29-Jan	**Final exam (Chapters 8-13, chapter 20, 2 Aramco presentations and SABIC presentation**	

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