BA4326/LOM5326 - Quality Assurance in Business

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Winter 2007 Section 001 #42140, TR 11:00-12:15

"Design Quality into the process rather than attempting to test defects out of the products." Deming
"Quality is free." Philip Crosby
"If you have one child, you know who did it." Bill Cosby

COURSE DESCRIPTION & OBJECTIVES:

This is primarily an applied statistics course dealing with philosophy and mechanics of statistical approaches to quality management. It is assumed that the student is acquainted with basic probability and statistics, and basic use of a PC-Compatible computer, We will review material from the prerequisites and then build on those to survey the tools of Statistical Quality Management and their application to practical cases. Emphasis is placed on problem definition, construction of statistical models, analysis of data, and interpretation of results. Students will develop a report at the end describing application of the tools in local organizations.

Prerequisites:

BA3320/5320, minimum 2.0 campus GPA or graduate standing

Tentative grading:

Two Exams	200 points each	400
Quizzes		200
Exercises		200
Application oral & written reports (last two weeks)		200
Total		1000 points

Quizzes are open group quizzes. Exams are closed book, one page (2-sides) notes, multiple choice, short answer. All Case exercises are individual effort only. Submissions very similar in form and /or content will result in zeroes. The application may be small groups with individual parts identified. Letter grade breaks are expected to be around 90, 80, 70, 60%. Plus & minus grades are rare. Application Report quality will be used to decide on borderline cases.

Required:

Text: ***Six Sigma*** by Donna C.S. Summers. Lean Six Sigma Pocket Toolbook, George et al., Others recommended. A calculator will be useful. You shouldn't need a complex statistical calculator.

Tentative Schedule:

Approx. date	Topic	Summers Text Reference
	Introduction & Overview of tools	
	Changing concepts of Quality and A Brief History of Quality Movements	Ch. 1, 2, 3
	Review of variance & Sampling Statistics--the central limit theorem	Ch 9
	Z scores and normal probabilities	
	Confidence Intervals and t-tests (tools and techniques in EXCEL)	Statistics videotutorials
	Time Series, Variables control charts, X-bar charts and R-charts	ch. 10
	Process capability	ch.11
	Bunomial distributions, Joint probabilities and Chi-square analysis	ch 12
Thursday March 15	EXAM - #1	
	Attribute control charts p-charts and c-charts	ch 13
	Six Sigma tools and terminolgy	ch 4-8
	Reliability and redundancy	ch 14
	Finding sources of variation, Specific vs. general variation- FMEA	ch 15
	Design of experiments and ANOVA, regression and correlation	ch 16
	Inventory management, EOQ vs. POQ and the philosophy of Lean	ch 17
	History and terminology of Lean	
Last two weeks	Project Reports	

Mar 24-Apr 1
spring break

Exam #2-Tuesday May 8, 10-12 noon. cumulative, but emphasizes later material.

STUDENT DATA CARD:

- course, section
- Name (What you want to be called) Student Number
- Do you have access to a computer at home?
- e-mail address
- Phone Numbers
- Major, year, related previous courses, current courses
- Special interests, What do you hope to be able to do as a result of this course?