

ISE 708 Quality Systems Engineering, Fall 2004

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Course Description and Introduction

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This course focuses on models and techniques of financial decision making under uncertainty. Topics covered include: Quality and Quality Philosophies, Quality Systems Management, Process Management and Tools, Quality Assurance, and Statistical Process Control. Time permitting, we will discuss Total Quality Management issues.

Approach

We will spend most of our classroom time discussing cases and discussion questions at the end of the chapters, with some time devoted to lectures and other activities. Thorough preparation of the cases and active participation in the class discussion are expected of all students. Your grade will be dependent in part upon the quantity of quality participation in those discussions. See the memorandum entitled "Note on the Case Method of Instruction" for suggestions on case preparation. (For those who had ISE 531, these cases are much shorter and thus, I have assigned more cases per week.) **You should review the "Note" to refresh your memory regarding case discussion and preparation.**

The textbook is *The Management and Control of Quality*, fifth edition, by James R. Evans and William Lindsay. ISBN: 0324066805 The text assignments serve as background reading for the cases and may not be directly discussed in class; however, familiarity with that material will be assumed for examination purposes. I suggest that you review the questions at the end of each assigned chapter in order to assess your understanding of the material as you complete reading it. Examinations will be take home.

Discussing cases with a small group of other students prior to class is extremely helpful. Frequently, issues or points of view are raised which you may have overlooked. This is particularly important since well-written cases are designed to be somewhat fuzzy, often with missing information. Forming a small case discussion group early in the semester will make your life easier, and you will also get more out of the course.

In order to help you in preparing the cases, I have asked you to hand in answers to the discussion questions found at the end of selected cases. The particular questions and the date they are due are specified in the course schedule. They will be due at the beginning of class and late submissions will be penalized. Grading will be in accordance with the procedure outlined in the next section. You are strongly encouraged to discuss the case with other students; however, case submissions should be written separately by you and express your views based on a synthesis of personal analysis and discussions with others.

Grading

The quality of your classroom participation in case discussions can effect your grade. Unless you are consistently and seriously unprepared, I often feel that some don't realize the importance of good class discussion. If you want to be a manager, you are going to have to learn to discuss issues in a group setting. Thoughtful and consistent contributions are important for your course grade and are required in order to earn a grade above B. With regard to the rest of the grading procedure detailed below, you should interpret the percentages given as being approximate and indicating the relative weight attached to exams, case submissions, etc., prior to an adjustment for classroom contributions.

During the semester you will be asked to submit your answers on nine cases. Your answers will be graded according to the following scale:

0, Not submitted; 3, Seriously Deficient; 5, Reasonable Effort.

If you conscientiously prepare an answer, you should anticipate receiving a grade of 5. A grade of 3 or less is an indication that there is some serious problem with your answer; and you should attempt to ascertain the difficulty as soon as possible. In calculating your course grade, Your case submissions, will constitute 50% of your grade. Please don't email the cases unless you are not going to be in class. Email can get lost and is not reliable.

The rest of your grade will be determined by your case presentations, participation in the discussion and the final exam.

Miscellaneous

My office is located in the Stocker Building, Room 278. 10-11 on Mondays and Wednesdays are the best times to find me. If possible, please drop by or try to call me during those days; however, if I don't answer (I may be on the telephone) or you are unable to call me at that time you can leave a voicemail at 740/593-1546 or send me an email at parksc@ohio.edu. I can more easily check voicemail when away. I recommend you not leave messages on my cellphone because I don't check it very often. I have a project that will require me to be away from the office several times this fall. Please speak slowly and clearly and leave your telephone number and I will return your call as soon as possible.

Course Schedule

I. Quality and Quality Philosophies

Tuesday, 7 September

Read: Course Description and Introduction

"Note on the Case method of Instruction"

Evans & Lindsay, Chapter 1

Case: Deere & Co., not in 6e, see imse server handouts (5e, p. 42)

Tuesday, 14 September

Hand in: Case submission 1, Deere & Co.

Read: Evans & Lindsay, Chapter 3

Case: TecSmart Electronics, p. 144 (not in 5e, see imse server handouts)

II. Quality Systems Management

Tuesday, 21 September.

Hand in: Case Submissions 2: TecSmart Electronics

Read: Evans & Lindsay, Chapter 4, Focusing on Customers

Case: The Case of the Missing Reservation, p. 194 (5e, p. 208) & Gold Star Chili, p. 195 (5e, p.212)

Tuesday, 28 Sept

Hand in: Case Submissions 3; Missing Reservation & Gold Star Chili.;

Read: Evans & Lindsay, Chapter 5 Leadership and Strategic Planning

Cases: Johnsonville Foods, p. 246 (5e, p277), & Corryville Foundry, p. 248 (5e, p. 279)

Tuesday, 5 October

Hand In: Case Submission 4 Johnsonville Foods & Corryville Foundry

Read: Evans & Lindsay, Chapter 7, Process Management

Case: Gold Star Chili, P. 354 (5e, p. 426) & Stuart Injection Molding, p. 366. (not in 5e, see imse server handouts)

Tuesday, 12 October

Hand In: Case Submission 5 Gold Star Chili & Stuart Injection Molding

Read: Evans & Lindsay, Chapter 8, Performance Measurement and Strategic Information Management

Case: Ultra-productivity Fasteners I, p. 427, (5e p. 498), & Part II on 6e CD. (5e p. 498)

III. Six Sigma and Technical Tools

Tuesday, 19 October

Hand in: Case Submission 6 Ultra-Productivity Fasteners: I & II. .

Read: Evans & Lindsay, Chapter 10, Principles of Six Sigma (new, but some in 5e, Chapt 10)

Case: Implementing Six Sigma at GE Fanuc, p. 506 (5e p. 620)

Tuesday, 26 October

Hand in: Case Submission 7 Implementing Six Sigma at GE Fanuc

Read: Evans & Lindsay, Chapter 11 (5e Chapt. 9) Statistical Thinking

Case: Applying Statistical Analysis at GE Fanuc, p. 552. (not in 5e, see imse server handouts)

IV. Quality Assurance and Statistical Process Control

Tuesday, 1 November

Hand in: Case Submission 8 Applying Statistical Analysis at GE Fanuc

Read: Evans & Lindsay, Chapter 12 Design for Six Sigma (new, not in 5e)

Case: The Hydraulic Lift, p. 629 (565 in 5e).

Tuesday, 9 November

Read: Evans & Lindsay, Chapter 13 (Chapt 10 in 5e) Tools for Process Improvement

Hand in: Case Submission 9 The Hydraulic Lift

Case: Readilunch Restaurant, p. 681 (638 in 5e)

Tuesday, 16 November

Hand in: Case Submissions 10 Readilunch

Tuesday, 23 November, Final Exam.