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## BU324 Fall 2000

### SYLLABUS

#### Quantitative Methods in Management Chaminade University

**Instructor:** Barbara P. Street, Ph.D.

**Office Hours:** MWF 2-3pm, Tr 12:30-1:30, or by appointment in Kieffer Hall Business  
Faculty Study, Room 14 cubicle CC ph: 739- 4609 ( home phone 377-5865)  
**e-mail:** [bstreet @ chaminade.edu](mailto:bstreet@chaminade.edu)

**Textbook:** Quantitative Analysis for Management by A. Render and R. Stair, 7th Ed.  
Published by Allyn and Bacon, 1999

#### COURSE GOALS:

The purpose of this course is to provide the student with the skills to apply various quantitative techniques to solve the types of problems that organizations and managers face in the real world. To acquire these skills, the student will need to study both the pertinent mathematical models and their assumptions and limitations, and learn how these models are utilized in computerized solutions.

#### COURSE OBJECTIVES:

By the end of the semester the student will be able to:

1. Recognize problems, which may be solved using one of the models studied in this class, and appropriately identify the correct model for solution.
2. Show understanding of the assumptions, parameters, and data required for each of the decision models studied in class.
3. Be able to work solutions to problems utilizing the models studied, manually and/or with the aid of a computer.
4. Be able to present the results of quantitative analysis professionally.
5. Be able to discuss, for the various models studied, how changes in the initial problem will impact the ultimate solution.

#### COURSE REQUIREMENTS:

1. Class attendance and participation is imperative. Students must be present, pay attention, and take part in discussions in order to earn attendance points described in the grading section. Each class period, two students will be assigned to serve as "aides" during that session, which will involve such responsibilities as writing on the board, inputting into the computer, and doing other such tasks to facilitate the class session.
2. Completing reading and written assignments on time is necessary. Students can expect written work daily. Solutions to homework problems are to be written up in accordance with the section on Homework Policies.

3. A Quiz covering the week's classes will be given each Friday. There will be one mid-term exam. Exams must be taken as scheduled. The lowest quiz grade may be dropped when the grades are calculated. NO make-up quizzes will be given. Make-up midterms will only be given to those students who have informed me of their absence BEFORE the exam was administered to the class.
4. Each Student will keep a 'learning log', in which the most important points of a class session are recorded, and the student records his/her thoughts, comments, or questions on that topic. These logs will be collected periodically and graded for both thoroughness and thoughtfulness of the contents. Students may refer to their learning logs during quizzes and exams.
5. Twice during the semester, the students will be grouped into "Consultant Groups" and assigned a case study to analyze. The group is charged with developing a written report to the client that will clearly state the group's advice to the client, and explain the reasoning behind that logic. The report will be graded based upon the quantitative analysis, the advice offered the client, and particularly the professional nature of the written presentation. Grammar and writing style will be considered in the grading. Students are urged to review their English Handbooks and proofread their report carefully.
6. Each Student will bring a red pen or pencil to each class. Students also need a folder with pockets and filler paper to serve as a learning log.

#### GRADING POLICY:

Midterm Exam:	100 points
Quizzes (8 points/quiz)	100 points
Group Case Studies (50 pts. each)	100 points
Learning Logs	50 points
Homework ( 2 pts/problem)	100 points
Attendance /Participation	50 points

#### COURSE GRADE

A:450-500 points

B:400-449 points

~~C: 350-399~~ points

D:300-349 points

F: below 300 points

## GENERAL POLICIES

My expectations in the classroom are that you will be willing and able to ask questions about any course material that is not clear to you. I look forward to questions during class time. It indicates to me that the student is paying attention, has a desire to learn, and is helping **his/her** fellow students by having the courage to ask a question that others may also have. To me, questions during class are a key component to the learning process and are always welcome.

I also strongly encourage questions from students outside of **class**. Please do not hesitate to take advantage of the office hours that I have scheduled. If these **times** are not convenient for you, we can schedule an appointment for some other time. I will do my best to make **myself** available for you outside of the classroom.

## HOMEWORK POLICIES

All assignments are due at the beginning of class as scheduled on the syllabus. The instructor reserves the right to reduce the grade or not accept late assignments out of fairness for the remainder of the class. Once the solution to a homework set has been reviewed in class, no late assignments will be accepted.

All homework is to be done individually. Copying of computer files or **hand-written** assignments from one student to another is strictly prohibited.

Your homework assignments will be graded not only on their content, but also their **appearance**. In order to receive full credit for your assignments, please follow these guidelines:

- o Use only one side of paper
- o Box or highlight final answer
- o Steps of the problem need to be neatly and clearly presented as you move down the page
- o All work, including use of equations, needs to be clearly shown
- o Place the problems in the order that they are assigned
- o Place any computer output of a problem immediately after any hand written portion of that problem.
- o Staple pages together - NO paper clips, folders or loose pages

I feel it's important that you take pride in the work that you submit. It's a reflection on the effort you have made to complete the assignment. I reserve the right to reduce the grade or not accept assignments that do not follow these guidelines.

### Proposed Course Outline

DATE	TOPIC	READING	WRITTEN ASSIGNMENT
Aug 28	Introduction		
Aug 30	Quantitative Decision Making	Chap 1	
Sept 1	CONVOCAATION-SEE YOU IN CHAPEL		
Sept 6	Probability	Chap 2 to p. 54	
Sept 8	Bayes' Theorem	Chap 2 to end	
Sept 11	Decision Making Under Risk	Chap 3 to p. 90	
Sept 13	Decision Making Under Risk Continued		
Sept 15	Uncertainty Chapter 3 to end		
Sept 18	Group analysis of Case Study		
Sept 20	Group analysis of Case Study		
Sept 22	Decision Wrap Up		
Sept 25	Forecasting	Chap 5 to p 163	
Sept 27	Time Series	Chap 5 to page 175	
Sept 30	Causal Forecasts	Chap 5 to end	
Oct 2	Qualitative Forecasts		
Oct 4	Wrap-Up on Forecasting		
Oct 6	Inventory	Chap 6 to page 208	
Oct 11	EOQ Inventory Model	Chap 6 to p 215	
Oct 13	EOQ Model Continued	Chap 6 to p 220	
Oct 16	Quantity Discount Models	Ch 6 to 223	

Oct 18    Safetv Stock                      Chap 6 to p 230

Oct 20 ABC ANALYSIS, Sensitivity Analysis Ch 6 to end

Oct 23 REVIEW

Oct 25 MID-TERM EXAM

Oct 27    Linear Programming Models    Ch 2 to p. 257

Oct 30    Solving LP Problems Graphically Ch 7 to page 268

Nov 1    Linear Programming-Minimization, special cases Ch 7 to p. 280

**Nov 3**    Sensitivity Analysis    Ch 7 to end

Nov 6    Computer Applications to LP    Ch 8

Nov 8    SOLVING LPs Using Simplex **Method**

Nov 13 LP **Wrap-up—The** Dual, Integer Solutions, Transportation and Assignment as LP Problems

**Nov 15, 17, 19** Group work on LP case studies

Nov 22    Project **Management**    Ch 13 to p. 569

Nov 27    PERT Cost                      Ch 13 to p. 589

**Nov 29**    CPM-Project crashing            Ch 13 to end

Dec 1    Project Scheduling

Dec 4    QUEUING                      Ch 14 to p 629

Dec 6    Multiple Queuing Channels Ch 14 to end

Dec 8    REVIEW

***FINAL EXAM: Wednesday, December 13 10:30 -12:30***