

Fayetteville State University
School of Business and Economics, Department of Management
MGMT 325 -45: Quantitative Methods; Prerequisites: BADM 216 (statistics)

FSU Policy on Electronic Mail: Fayetteville State University provides to each student, free of charge, an electronic mail account (username@uncfsu.edu) that is easily accessible via the Internet. The university has established FSU email as the primary mode of correspondence between university officials and enrolled students. Inquiries and requests from students pertaining to academic records, grades, bills, financial aid, and other matters of a confidential nature must be submitted via FSU email. Inquiries or requests from personal email accounts are not assured a response. The university maintains open-use computer laboratories throughout the campus that can be used to access electronic mail. Rules and regulations governing the use of FSU email may be found at <http://www.uncfsu.edu/PDFs/EmailPolicyFinal.pdf>

II. COURSE DESCRIPTION:

This course provides an introduction to management science topics and modeling in the decision making process. It covers the quantitative tools for managerial decision-making and focuses on areas such as linear programming, inventory control, project management, simulation, decision analysis, and queuing theory. This course is a competency-based practice-to-learn course designed to focus on targeted learning objectives.

Note: This is a web-enhanced class using Blackboard Interface. **If you are not familiar with Blackboard, visit the Student Support Site at <http://www.uncfsu.edu/conted/studentsupport/> for Tip Sheets and Tutorials.**

Please visit

<http://www.uncfsu.edu/conted/ONLINE%20ORIENTATION%20FOR%20BLACKBOARD%20Final.doc> for the Online Orientation to Blackboard.

III. DISABLED STUDENT SERVICES: In accordance with Section 504 of the 1973 Rehabilitation Act and the Americans with Disabilities Act (ACA) of 1990, if you have a disability or think you have a disability, please contact the Center for Personal Development in the Spaulding Building, Room 155 (1st Floor); 910-672-1203.

IV. COURSE TEXT:

Anderson, David, Dennis Sweeney, and Thomas Williams, *Quantitative Methods for Business*, Tenth Edition, 2006. ISBN: 978-0-324-31265-2

Some class handouts and additional resources will be given in the class and will be posted on Blackboard.

I reserve the capability to modify this syllabus as conditions warrant.

V. STUDENT LEARNING OBJECTIVES:

At the end of this course, students are expected to be able to:

1. **Decision Making:** understand the decision making process, understand problem solving process, understand qualitative and quantitative analysis using models
2. **Decision Analysis:** Be able to formulate a decision problem and calculate payoffs for selection of decision alternatives under deterministic or stochastic situation. Be able to use decision trees for making decisions, understand the concepts of expected value and risk analysis
3. **Forecasting:** understand the concept and application of forecasting and be able to use different tools for forecasting and be able to analyze the results
4. **Linear Programming:** Be able to use LP to formulate decision problems, be able to solve an LP problem, Be able to interpret the results, Be able to formulate and solve Transportation Problems.

5. **Project Scheduling:** Be able to define a project, define project life cycle, plan and control projects, use PERT/CPM tools for modeling projects, interpret the time/cost relations in projects
6. **Inventory Models:** Understand the concepts of inventory and inventory management, understand the costs related to inventories, be able to use EOQ Model for finding optimum quantity per order, reorder points, and total inventory costs.
7. Use MS EXCEL and other software to solve different quantitative models and analyze results

VI. COURSE REQUIREMENTS AND EVALUATION CRITERIA -

a. **Grading Scale – The class grading scale consistent with the university catalog.**

A = 90 - 100 B = 80 - 89 C = 70 - 79 D = 60 - 69 F = less than 60

INTERIM GRADE X = NO SHOW – Assigned to students who are on a class roster, but never attend class. For warning purposes only; NOT a final grade

INTERIM GRADE EA = EXCESSIVE ABSENCES - Assigned to students whose class absences exceed 10% of the total contact hours. For warning purposes only, NOT a final grade.

FN = FAILURE DUE TO NON-ATTENDANCE – Assigned to students who are on class roster, but never attend the class. An FN grades is equivalent to an F grade in the calculation of the GPA.

NOTE TO STUDENTS ABOUT CLASS WITHDRAWALS:

- Students receive no refund for withdrawing from individual classes and they slow their progress toward degree completion.
- Students who withdraw from or fail more than one-third of their classes will no longer be eligible for financial aid.
- Students must strive to earn credit for all the classes in which they enroll. Students should withdraw from classes only when it is absolutely necessary.
- **WITHDRAWAL FROM CLASS**
Withdraw from Class means you are withdrawing from 1 or 2 classes that you will not be attending and you have other classes on your schedule that you will attend. Effective Fall 2009, students will be allowed only 5 withdrawals from class for the remainder of your college career. The 6th W will be calculated as "F".

b. **Attendance Requirements** – The university guidelines on class attendance in the undergraduate catalog, and the following instructor's attendance policy will apply:

All students are required to attend all class meetings scheduled for the semester in the sections that they are registered for. You may be excused when you have a legal document that proves a medical/family emergency. With the exception of an official university excused absence, approved absences may **not** exceed 2 class meetings in a regular semester. Even though a class absence may be excused, the student will assume full responsibility for learning course content missed, and completing any missed assignments. Suggested catch-up on missed course materials include checking BB course site and getting in touch with peer(s). Learning is a progressive and continuing process, where new concepts are built upon learned concepts. Students who have excessive absences tend to:

- have poor understanding of concepts
- be unclear about what to do on assignments/computer projects
- lack critical information related to successful completion of assignments or computer projects

- be late on assignments/computer projects
- exhibit poor class performance

You will lose your class participation points because of not attending the class.

Punctuality - Students enrolled in this course are required to arrive at each class meeting on time and remain in class until dismissed by the instructor. Students are responsible for notifying instructors, in advance when possible, of reasons for late arrivals and early departures.

Students enrolled in courses at the 300 and 400 levels, regardless of classification, are ineligible to receive WN grades. Graduate students enrolled in undergraduate courses are not eligible for WN grades, regardless of the level of the course (except when auditing).

c. Grades will be based on the 7 learning objectives that will be measured through different homework, class projects, and exams.

GRADING:

Examinations (4)	75%
Exam 1 (Ch. 1, 4, 6)	
Exam 2 (Ch. 7, 8)	
Exam 3 (Ch. 10, 12, 13)	
Final Exam (Ch. 1, 4, 6, 7, 8, 9, 10, 12, 13, 14, 15)	

Homework	25%
----------	-----

Homework MUST be done individually (unless it is instructed otherwise).

d. Policy on Missed or Late Assignments -

All homework assignments are due in class on the due dates. You must take each exam on the date and time scheduled. No makeup exams will be given unless under extenuating circumstances (Prior instructor approval is required). The instructor reserves the right to change the structure/format of the missed exam. If you fail to take an exam on time, you will receive a ZERO on the exam. The grade for missed assignments is zero and cannot be changed. You are responsible for checking any updates on the final exam day/time for this course in the university's website. Type "Final Exam Schedule" in the Search tool in FSU home page.

e. Other class policies, rules, regulations that affect a student's grade

1. Class Participation

I expect you to review the assigned chapters before class and be ready to participate in class discussions. Your class participation includes class attendance, and class discussions.

2. Text and Other Readings

Assigned readings should be completed according to the given schedule. It usually takes 2 to 3 hours to read one chapter. It is recommended that students take notes carefully when they are reading the chapters. The other readings (e.g. lecture notes, PowerPoint slides, tutorials and Internet sites) are part of your responsibilities for this course reading. Make sure that you take good notes from instructor lectures. Although you are responsible for all the materials listed in the syllabus and assigned in class, the lecture notes that you take in class should be the core of your study.

3. Technology Requirements

This course assumes you already have a demonstrated competence in each of the software items listed below. The instructor will **not** provide instructions of technical support for any of the assumed software competencies.

- **Blackboard Interface.** You should be familiar with ALL aspect of blackboard, including the use of mailing lists, Assignment Link, and how to use communication tools to send and receive assignments to the professor and to other class members as needed.
- **Assignment Link.** You must be capable of using Assignment Link in Blackboard to submit your works.
- **The Internet.** You must be capable of using the Internet, especially for purposes of getting course-related information from the web page of the textbook hosted by the publisher. The professor may also send you email updates requiring that you visit selected web sites as part of the participation portion of the course and/or homework and tests. Special Note: high-speed Internet connections are desirable when sharing/using data via the Blackboard course site.
- **Email Services.** You must be proficient in sending and receiving email, including the use of attachments.
- **Microsoft Excel and Word.** You are expected to be competent in the use of Microsoft Office EXCEL and WORD and to have access to it either on your hard drive or on a network server.

4. Communication with the Instructor and with Each Other

The best way to communicate with me is by email or through Blackboard. Use email to ask questions about the course and the assignments. If you have any questions or problems, please let me know as soon as possible so that we can find a solution.

Note: Email ID Requirements: Due to increasingly serious virus threats, I do not open most emails. When you send me an email, your subject line **MUST** contain the following information: **Course Number, Your Name, and Reason for message.**

Example: "MGMT 325 - YourLastName - Question on Homework 1".

If your subject line does not follow the correct format, your email will be deleted UNREAD.

5. Student Behavior Expectations: -The instructor will respect all students and will make every effort to maintain a classroom climate that promotes learning for all students. Students must accept their responsibility for maintaining a positive classroom environment by abiding by the following rules:

- a. Students are not permitted to wear headphones or other paraphernalia that may be distracting to the classroom environment. This includes cell phone Bluetooth ear-mounted devices.
- b. Students must refrain from any activity that will disrupt the class; this includes turning off cell phones and pagers. Cell phones must be turned off during the class time, thus, no texting.
- c. Students will not pass notes or carry on private conversations while class is being conducted.
- d. Students will not use computers unless it is permitted by the instructor.

Consequences for Failing to Meet Behavioral Expectations: The first time a student violates one of these rules, the instructor will warn him or her privately, either after class or before the

next class. (Faculty members reserve the right to warn students publicly if needed.) The second time a student violates the guidelines; the instructor may deduct as many as twenty points from the student's next exam grade. If a student violates the guidelines three times, the instructor will report the student to the Dean of Students for disciplinary action according to the FSU Code of Student Conduct.

6. Academic Dishonesty

You need to read the **FSU Code of Student Conduct** (the link is provided in the course site under FSU Academic Dishonesty Policy). Plagiarism and cheating are serious offenses and may be punished by failure on exam; failure in course; and/or expulsion from the University. Plagiarism is considered theft of intellectual property. Please visit the Georgetown University web site (<http://www.georgetown.edu/honor/plagiarism.html>) for plagiarism discussions. All students enrolled in FSU classes at all levels are responsible for knowing what constitutes plagiarism. Whether by design or by accident, plagiarized content is unacceptable. There are no explanatory circumstances.

Plagiarism occurs when:

- *Students submit work that directly quotes or paraphrases the work of another, without specific citation of the passages crediting the creator of the work*
- *Students combine the works of another with their own original effort, including comments on those passages, without specific citation of the passages crediting the creator of the work*
- *Students include a list of references at the end of an assignment but do not indicate which words or passages specifically (by use of quotation marks) are from those sources and which words or passages are original work*

VII. TEACHING STRATEGIES

In this class, I will use different tools to cover the competencies required for this course. In addition to that, we need to pay attention to individual needs of students identified through class and individual communications with the students. This class is mostly presented by instructor and students' class lectures. The lectures are from the textbook and other external sources as needed. In addition to lectures, by working on examples in class led by the instructor, I try to cover your areas of knowledge weakness and give you practical experience. The objective is to make sure that you learn how to use your knowledge. Since this course is a web-enhanced course, all class announcements and materials such as syllabus, handouts, presentations, instructions, and practice questions will be available on Blackboard. Finally, the grade book posts all student grades associated with tests and assignments. You should use the Blackboard grade book to review your grades. Please check the Blackboard everyday to update your information.

VIII. BIBLIOGRAPHY

Will be provided on Blackboard

IX. HOMEWORK ASSIGNMENTS

Ch 01: Even numbered Problems pages 19-22.

Ch 04: Even numbered Problems pages 131-144.

Ch 06: 1, 4, 8, 14, 25, 33 pages 215-224.

Ch 07: 1, 2, 7, 13, 20, 31, 42

Ch 08: 1, 6, 10, 12, 30
Ch 09: 1, 9, 15, 19
Ch 10: 1, 2, 8, 12, 23, 24
Ch 12: 3, 6, 10, 13, 21, 22
Ch 13: 1, 13, 15, 21, 25, 29
Ch 14: 1, 5, 11, 18, 21, 30
Ch 15: 2, 5, 9, 14, 18

X. OUTLINE

MODULE ONE:

Chapter 1 Introduction
Chapter 4 Decision Analysis
Chapter 6 Forecasting
Test #1

MODULE TWO:

Chapter 7 Introduction to Linear Programming
Chapter 8 Linear Programming: Sensitivity Analysis and Interpretation of Solution
Chapter 9 Linear Programming Applications
Test #2

MODULE THREE:

Chapter 10 Transportation, Assignment, and Transshipment Problems
Chapter 12 Project Scheduling: PERT/CPM
Chapter 13 Inventory Models
Test #3

MODULE FOUR:

Chapter 14 Waiting Line Models
Chapter 15 Simulation
Final Exam