

SOUTHERN ILLINOIS UNIVERSITY
EDWARDSVILLE
SCHOOL OF BUSINESS

MBA 521: Quantitative Analysis
Three Semester Hours

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Quantitative knowledge expected at the beginning of MBA 521:

Measures of Central Tendency (Mean, median and mode)

Measures of Variability (Standard Deviation and Coefficient of Variation)

Correlation

Sampling and Estimation including the Normal Distribution and Confidence Intervals

Basic Hypothesis Testing

Basic Regression Analysis

If you have this knowledge from a statistics course (MS 251 at SIUE or the equivalent from another school), you are ready to begin MBA 521. If you do not understand these concepts or would like a refresher, you can complete an online course offered through the Harvard School of Business.

Required Text: Render, Barry, Ralph M. Stair, Jr. and Michael E. Hanna, *Quantitative Analysis for Management*, 10th Edition, Pearson - Prentice Hall, 2009.

Optional Text: A college algebra textbook or outline will be helpful for sessions 6 and 7 when we review some basic algebra concepts and systems of linear equations in preparation for learning Linear Programming.

Course Catalog Description: This course introduces a structured approach to problem solving and the fundamental quantitative methods used to formulate and solve problems to support business decision making. Students will practice both analysis of complex situations and communication of results based on these decision models.

Course Level Learning Objectives: Students successfully completing this course will acquire the mathematical skills needed to progress through the School of Business MBA curriculum.

- Students will develop structured problem-solving skills. This includes:
 - the ability to identify and define business problems;
 - recognition and adoption of appropriate analytical processes;



- procurement, evaluation and processing of information relevant to business problems; and
- formulation of written communication of the results of the analysis.
- Students will be introduced to the application of quantitative techniques to business problems. These techniques include:
 - Decision analysis
 - Forecasting
 - Linear regression
 - Linear programming
- Students will become familiar with the professional standards in presenting quantitative analysis and communicating results. To this end, all assignments must meet minimal standards to be acceptable. These standards address format, notation, and interpretation

Course Delivery: This course uses a variety of formats for delivery of the material. Each week, the content lectures will be available on-line through Blackboard. You are expected the access these lectures prior to class and to attempt the assigned problems. In-class time will be devoted to going over the assigned problems and to discussing business cases. Some of the cases will be from the textbook, and some of the cases will be downloaded from the Harvard Publishing website.

Grades: Course grades will be based on quizzes, deliverables, preparation and participation. Quizzes and exams will determine 45% of the final course grade. Course deliverables will determine 45% of the final course grade. Class preparation and participation will determine 10% of the final course grade. The course grade breakdown is as follows:

Weekly Quizzes (8)	10%
Memos (2)	30%
Presentation Prep	15%
Midterm Exam	15%
Final Exam	20%
Participation	10%
Total	100 %

Weekly Quizzes: The purpose of the quizzes is to allow you to demonstrate what you have learned through the course. At the beginning of class each week a quiz will be administered. Problems, mini-cases and short-answer questions will be used on the quizzes to assess your knowledge of course topics. Missed quizzes cannot be made up. The lowest quiz grade will be dropped.

Memos: The purpose of the memo assignments is to help you become comfortable with reporting quantitative information and analysis using written communications. In this class you will learn how to use mathematical analysis to help in making business decisions and in providing conclusions and recommendations based on your analysis.

The memos will be in the form of case analyses (approximately 3-5 pages long, not including exhibits). Students will be required to hand in write-ups for Lorex Pharmaceuticals (Week 3) and Red Brand Canners (Week 10). These cases will also be discussed in class.

The assignments are to be typewritten/word processed. Specific guidelines for write-ups will be posted on Blackboard. Cases must be handed in before the case is discussed in class. Late assignments will not be accepted.

Presentation Prep: The purpose of the presentation prep is to help you understand the importance of presentation preparation and the principles of effective visual aids.

In this course we will concentrate on written communication skills. Therefore, the presentation prep is the written work done to prepare for a presentation. The deliverables will be an outline of an oral presentation and the slides that would be used to present the analysis for one of the cases we will discuss in class.

The presentation outline is to be word-processed, and the visual aids must be PowerPoint slides. Students will be required to hand in the outline and slides for a database analysis (Week 6). This analysis will also be discussed in class.

Specific guidelines for the outline and slides will be posted on Blackboard. The outline and slides must be handed in before the case is discussed in class. Late assignments will not be accepted.

Exams: Two exams will be administered to allow you demonstrate what you have learned over the course of the 10-weeks.

Problems, mini-cases and short-answer questions will be used on the final to assess your knowledge of course topics.

In-class Participation: The purpose of the participation grade is to encourage your involvement in the course. This will be decided based on your overall contribution to class. Desirable contributions include asking intelligent questions on the material, answering questions on the material, presenting solutions to practice problems and participating in case discussions. Being prepared with the reading assignments and homework problems is also important.

In judging your performance in class participation, keep the following words of one of my former colleagues in mind, “*breathing without the assistance of a classmate does not provide a contribution.*” Your presence in class is the baseline from which I begin grading class participation. The following rubric will be used to evaluate your class participation.

	Strong Work ¹	Needs Development	Unsatisfactory
Listening	Actively and respectfully listens to peers and instructor	Sometimes displays lack of interest in comments of others	Projects lack of interest or disrespect for others
Preparation	Arrives fully prepared with all assignments completed, and notes on reading, observations, questions	Sometimes arrives unprepared or with only superficial preparation	Exhibits little evidence of having read or thought about assigned material

Quality of contributions	Comments are relevant and reflect understanding of: assigned text(s); previous remarks of other students; and insights about assigned material	Comments sometimes irrelevant, betray lack of preparation, or indicate lack of attention to previous remarks of other students	Comments reflect little understanding of either the assignment or previous remarks in class
Impact on class	Comments frequently help move class conversation forward	Comments sometimes advance the conversation, but sometimes do little to move it forward	Comments do not advance the conversation or are actively harmful to it
Frequency of participation	Actively participates at appropriate times	Sometimes participates but at other times is “tuned out”	Seldom participates

¹ Class participation deserving of an A grade will be strong in most categories; Participation that is strong in some categories but needs development in others will receive a B; a grade of C reflects a need for development in most categories; D work is typically unsatisfactory in several categories; and F work, unsatisfactory in nearly all.

Adapted from: ACS Learning Communities, Rubric for Evaluating Class Participation, <http://www.villanova.edu/artsci/vcle/resources/rubric.htm>

Code of Professional Conduct: The School of Business maintains a code of professional conduct describing the expectations for the behavior of students, faculty and staff. I will strive to uphold these expectations throughout the term. I expect you to do the same.

**Southern Illinois University Edwardsville
School of Business
Code of Conduct
(What We Expect of Each Other)**

Faculty, staff and students in the School of Business at Southern Illinois University Edwardsville are expected to contribute to a culture of integrity and professionalism. Our School’s culture encourages behaviors associated with educated and self-disciplined individuals. Those behaviors include:

- being honest;
- being reliable and prepared;
- being responsible for one’s own actions and decisions; and
- being respectful of all individuals.

Special Needs:

If you have special physical or educational needs that require accommodation or auxiliary aids and services, I am ready to accommodate you. You will need to do the following:

- A. Speak with me during the first week of class.
- B. Provide documentation of your need.
- C. If you have not done so already, please contact or visit Disability Support Services located in the Student Success Center, Room 1270, or call the office at 650-3726 or email disabilitysupport@siue.edu. They will assist in the planning of necessary accommodations.

Academic Dishonesty: Academic misconduct includes cheating, plagiarism, falsification of records, unauthorized possession of examinations, intimidation, and any other action that may improperly affect the evaluation of your performance. Academic misconduct also includes

assisting others in any such acts. Penalties for academic misconduct may range from grade penalties (including a zero for an assignment or examination, or failing a student for the course) to official disciplinary action including notification of the Provost's office.

For more information see the Student Academic Code (<http://www.siu.edu/policies/3c2.shtml>) and the university policy on plagiarism (<http://www.siu.edu/policies/1i6.shtml>).

MBA 521 Blackboard Site: Blackboard is a web-based course management system. It provides valuable tools for communication and information sharing. In the Blackboard site, you will be able to download lecture notes, view lectures, check your grades and obtain other information.

You may access Blackboard by going to: <http://bb.siu.edu/>. To log onto Blackboard, you must have an active SIUE e-mail account. If you do not have an SIUE e-mail account, the Office of Information Technology provides e-mail accounts (<https://oitam.isg.siu.edu/~eid/cgi-bin/e-ID>). Your initial Blackboard login will be your SIUE e-mail identifier. For example, mine is lswanso. Your password is your SIUE e-mail password.

Course Outline

Note: This schedule is subject to change at the discretion of the instructor. All changes will be announced in class and on the course web page.

TENTATIVE COURSE OUTLINE:

Week 1	
<i>Topic</i>	<i>Overview of the Course and Probability and Statistics</i>
<i>Readings from the Textbook</i>	Chapter 1 Introduction to Quantitative Analysis Chapter 2 Probability and Statistics
<i>Assigned Problems</i>	Part 1: 17; Part 2: 18, 23, 26; Part 3: 33, 35, 36; Part 4: 38, 41, 42, 47
Week 2	
<i>Topic</i>	<i>Linear Functions and Systems of Linear Equations</i>
<i>Readings from the Internet</i>	www.Purplemath.com Intercepts, Straight Line Equations, Slope of a Straight Line, The Meaning of Slope and Intercept in the Context of a Word Problem, Solving Systems of Linear Equations
<i>Readings from Harvard Publishing</i>	How to Analyze a Case
<i>Assigned Problems</i>	Problems will be posted on Blackboard
Week 3	
<i>Topic</i>	<i>Simple Linear Regression and Case Discussion</i>
<i>Readings from the Textbook</i>	Chapter 4 Regression Models, pp. 117-131
<i>Assigned Problems</i>	Part 1: 13a, 13b; Part 2: 13c; Part 3: 14
<i>Deliverable</i>	Memo #1: Lorex Pharmaceuticals (HBP)
Week 4	
<i>Topic</i>	<i>Multiple Regression</i>
<i>Readings from the Textbook</i>	Chapter 4 Regression Models, pp. 131-140
<i>Assigned Problems</i>	Parts 4 and 5: 26, 27, 28
Week 5	
<i>Topic</i>	<i>Midterm Exam</i>
Week 6	
<i>Topic</i>	<i>Forecasting and Database Analysis Discussion</i>
<i>Readings from the Textbook</i>	Chapter 5 Forecasting
<i>Readings from Blackboard</i>	Manager's Guide to Forecasting
<i>Assigned Problems</i>	Parts 1 and 2: 5-14, 15, 16 and 17; Part 3: 31
<i>Deliverable</i>	Presentation Preparation: Automobile Pricing

Week 7

Topic
Readings from the Textbook
Readings from Blackboard
Assigned Problems

Decision Analysis
Chapter 3 Decision Analysis
The Hidden Traps in Decision Making
Part 1: 27; Part 2: 19, 20; Part 3: 30, 35; Part 4: 31, 42

Week 8

Topic
Readings from the Textbook
Assigned Problems

Linear Programming Part 1
Chapter 7 Linear Programming Models: Graphical and Computer Models
Part 1: 14, 15, 18 manually; Part 2: 14, 15, 18, 26 with Excel Solver; Part 3: 31, 32, 33

Week 9

Topic
Readings from the Textbook
Assigned Problems

Linear Programming Part 2
Chapter 8 Linear Programming: Applications with Computer Analyses in Excel and QM for Windows
8-1, 2, 18 and 19 (only answer the questions for 19, do not write a report)

Week 10

Topic
Deliverable

Final Exam and Case Discussion
Memo #2: Red Brand Cannery
