Westfield State University

Department of Economics and Management

MGMT 0250 QUANTITATIVE APPROACHES TO BUSINESS DECISIONS

Catalog Description: Covers the application of quantitative techniques to business problem-solving and decision making. Subjects include linear programming, probabilities, simulations, PERT, queuing, and game theory. The application of these analytical tools to business decision problems such as: distribution, inventory control, product mix, scheduling, competitive strategy, and forecasting is covered through case analysis. Approximately 1/3 of the course is devoted to case work. Prerequisites: MGMT 0107, MATH 0108 and MATH0115.

Required Textbook: Quantitative Methods for Business (QMB), 11th Edition; David R. Anderson, Dennis J. Sweeney, Thomas A. Williams, Jeffrey D. Camm, & Kipp Martin (ASWCM).

Course Goals/Objectives

1. Understand QMB as a coherent process that starts with defining a problem, generating alternatives, developing criteria for evaluating the alternatives, evaluating alternatives, selecting an appropriate solution, and implementing it.
2. Understand how to develop an optimal strategy when faced with several decision alternatives.
3. Understand how to use quantitative and qualitative techniques to develop forecasts that can be used to create appropriate strategies for the future.
4. Understand how to formulate a mathematical model identifying its objective function, constraints, and variables.
5. Understand how to perform a sensitivity analysis and interpret the results of the analysis.
6. Understand how QMB can be applied in various functional areas including: marketing, Finance, and Operations.
7. Demonstrate how QMB can be used by managers to establish low-cost inventory policies.
8. Demonstrate how QMB can be used to make better decisions concerning capacity for waiting lines, resource utilization, and scheduling of resources.
9. Understand how to use Simulation to perform a risk analysis and develop an appropriate optimization model.

Grading Information

Course grades will be based on the following distribution:

Assignments	# of Course Assignments	Individual or team	Percentage for each assignment	Percentage of total grade	Map to Course Objectives
Weekly Problem Solving Discussions	4	Group/Individual Effort	6.25%	25%	Course Objectives: 1-9
Case Assignments	5	Individual	5%	25%	Course Objectives: 1-9
Midterm	1	Individual	25%	25%	Course Objective: 1,2, 4, 5, 6
Final Examination	1	Individual	25%	25%	Course Objectives: 1-9
Total	*11*			*100%*	

Grade Distribution

0 -- 59	F
60 -- 65	D
66 -- 69	D+
70 -- 72	C-
73 -- 76	C
77 -- 79	C +
80 -- 82	B -
83 -- 86	B
87 -- 89	B+
90 --92	A-
93 -- 100	A

Class Attendance –

You are required to attend by participated in weekly class discussions within Plato. Your participation score will be graded using the following rubric:

Points	Points Guideline
0—2	Unacceptable. The answer is inaccurate and/or unclear; and your contribution to the discussion is unclear and/or is irrelevant to the topic.
3—4	Poor. The answer though partially accurate and minimally clear, is significantly inaccurate or misleading; and the contribution to the discussion is not substantive.
5—6	Mixed level. The answer is clear but not perfectly accurate. It is partially correct and partially incorrect; and you made a single or several partially correct contributions to the discussion.
7—8	Commendable. The answer is well expressed, though with minor problems. It is basically correct and clear. Any misunderstanding is minor; and you made a single clear contribution to the discussion.
9—10	Excellent. The answer is accurate, insightful, clearly and precisely stated, and well exemplified (where applicable); and you made several insightful contributions to the discussion.

Self-Tests

Take as many Self-Tests as possible from the chapters we shall be covering. They are a good preparation for your exam, discussions, and case assignments.

Homework

All assignments and examinations should be submitted to me via the appropriate area in Blackboard. I will not accept assignments via e-mail. I receive a sizeable number of junk mail in mailbox and so cannot keep up with assignments e-mailed to me in that mailbox. Assignments and examinations are due on the due date shown in Blackboard.

Academic Honesty

Academic honesty is required and expected in all work you submit for grading in this class. While you may work together to solve problems, the final work that you submit must be written by each student reflecting their level of understanding of the content.

Course Outline

Week	Date	Readings and Topic	Weekly Assignment	Case Assignment/Due Date
1	May 23 to May 27	Ch. 1: Intro to Quantitative Analysis & Ch. 4: Decision Analysis	Discussion Questions in Blackboard	
2	May 28 to June 3	Ch. 7: Intro to LP; Ch. 8: LP Sensitivity Analysis; and Ch. 9: LP Applications	Discussion Questions in Blackboard	1.Case Prob. #2: Lawsuit Strategy, Page 147: Due June 6
3	June 4 to June 10	Midterm Examination -- Ch.:1, 4, & 7-9	Exam Period 6/9-6/13	2.Case Prob. #3, Page 408; Due on June 13
4	June 11 to June 17	Ch. 6: Forecasting & Ch. 14: Inventory Models	Discussion Questions in Blackboard	3.Case Prob. #2: Lost Sales, Page 228; Due June 20
5	June 18 to June 24	Ch. 15: Waiting Line Models & Ch. 16; Simulation	Discussion Questions in Blackboard	4.Case Prob. #1: Wagner Fabrication Co., Page 651; Due on June 27
6	June 25 to July 1	Final Examination -- Ch. 6, 14-16	Exam Period 6/30-7/3	5.Case Prob. #1: Regional Airlines, Page 692; Due on July 1