COURSE NUMBER: DBA 7300
COURSE TITLE: Quantitative Business Analysis

I. LEARNING OUTCOMES AND GOALS

GOAL A: Students will become familiar with concepts of quantitative analysis to managerial decision-making.

Learning Outcome: The student will

A-1. Recognize the role that quantitative analysis plays in making decisions.
A-2. Be able to gather appropriate information for use in business decision making.
A-3. Identify and define relevant objectives on a business problem.
A-4. Determine criteria and assumptions to define a managerial problem.
A-5. Demonstrate strong background in quantitative analysis.

GOAL B: Students will learn a variety of quantitative decision techniques to solve managerial problems.

Learning Outcome: The student will

B-1. Differentiate the purpose of different quantitative analysis techniques.
B-2. Select the appropriate technique to use for managerial problems.
B-3. Be able to transform a business problem into a mathematical model that can be solved quantitatively.
B-4. Understand the basic foundations of probability analysis.
B-5. Understand the importance and use of utility theory in decision making.
B-6. Understand when to use appropriate forecasting models.
B-7. Solve any linear programming problem with two variables graphically and use Excel spreadsheets to solve any linear programming problem.
B-8. Understand and solve integer programming, goal programming, and nonlinear programming problems.
B-9. Know how to plan, monitor, and control projects with the use of PERT.
B-10. Simulate a wide variety of problems.

GOAL C: Students will become proficiency in solving real-world management problems using Microsoft Excel.

Learning Outcome: The student will

C-1. Master the use of Excel to solve managerial problems.
C-2. Build practical business analysis skills through building a model by Excel.
C-3. Solve reasonable scale decision problems by Excel.
C-4. Be able to interpret the output generated by Excel to business problems.
GOAL D: Students will improve their critical thinking and reasoning skills.

Learning Outcome: The student will

D-1. Understand why analytical thinking is important for business decision-making.
D-2. Think logically while solving a business problem.
D-3. Be able to decide if the existing quantitative processes are reasonable.
D-4. Identify all possible alternatives to solve a business problem.
D-5. Organize projects to meet objectives and manage elements of projects.

GOAL E: Students will develop an understanding of how to interpret the results of quantitative analysis of a business problem.

Learning Outcome: The student will

E-1. Determine whether a satisfactory solution has been reached.
E-2. Identify key issues from the results of quantitative analysis.
E-3. Provide appropriate recommendations based on the analytical results.
E-4. Determine an optimal strategy by analyzing the possible decision alternatives.
E-5. Plan and schedule a project based on the optimal strategy.

II. ATTRIBUTES OR RATIONALE

Quantitative analysis technique is to help managers make better decisions. By incorporating quantitative factors into a mathematical model and developing mathematical procedures to generate a solution or recommendation to the model, managers can gain insight and understand a managerial problem before attempting to make a decision.