Bemidji State University

BUAD 3281: Management Science

A. COURSE DESCRIPTION

Credits: 3
Lecture Hours/Week: 0
Lab Hours/Week: 0
OJT Hours/Week: *.*

Prerequisites:
This course requires any of these eight prerequisite categories
1. Both of these
   - BUAD 2280 - Computer Business Applications
   - MATH 1170 - College Algebra
   - Or
2. MATH 1180 - Trigonometry
   - Or
3. MATH 1470 - Precalculus
   - Or
4. MATH 2471 - Calculus I
   - Or
5. MATH 2472 - Calculus II
   - Or
6. MATH 2210 - Discrete Mathematics
   - Or
7. MATH 2480 - Multivariable Calculus
   - Or
8. MATH 2490 - Differential Equations

Corequisites: None
MnTC Goals: None

This course covers the quantitative method and models in business that focus on management science techniques, using a linear programming tool implemented in Excel. Design, documentation, and auditing standards are defined and applied to models and spreadsheet database applications. Prerequisites: ACCT 2102, BUAD 2280 and MATH 1170 (or equivalent or higher).

B. COURSE EFFECTIVE DATES: 07/31/2023 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Binary Integer Programming to Deal with Yes-or-No Decisions
2. Forecasting (Supplement)
3. Linear Programming: Basic Concepts
4. Linear Programming: Formulation & Applications
5. Minimum Spanning
6. Network Optimization Problems
7. Nonlinear Programming
8. Queueing Models
9. The Art of Modeling with Spreadsheets
10. What-If Analysis for Linear Programming
D. LEARNING OUTCOMES (General)
   1. apply the integration of advanced spreadsheet development across the entire business and management enterprise.
   2. construct spreadsheet techniques to solve real world business case problems.
   3. analyze differing software added packages used with spreadsheets.
   4. identify the decision-making issues involved in business management.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted