

# Minnesota State University Moorhead

## MGMT 480: Management Science

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: \*.\*

Prerequisites:

- MGMT 360 - Principles of Management AND MATH 234 - Introduction to Probability and Statistics;  
OR

- MATH 234 - Introduction to Probability and Statistics

Corequisites: None

MnTC Goals: None

A study of deterministic techniques of management science such as linear programming, transportation models, assignment models. Other models may be covered as time permits.

**B. COURSE EFFECTIVE DATES:** 04/14/2003 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Introduction to Management Science
2. Introduction to Linear Programming
3. Linear Programming ; Sensitivity Analysis and Interpretation of Solution
4. Linear Programming ; Applications in Marketing, Finance and Operations management
5. Linear Programming ; Advanced Applications (DEA and Yield Management)
6. Distribution and Network Models
7. Binary, Integer and Mixed Integer Linear Programming Models
8. Multi Criteria Decision Making Models

### D. LEARNING OUTCOMES (General)

1. Develop skills in formulating mathematical models for business problems
2. Develop analytical skills and show how management science techniques can be used for business decision making
3. Formulate Linear Programming models
4. Solve Linear Programming Models using Excel Solver
5. Interpret Linear Programming Model Solution obtained using Excel Solver
6. Formulate, Solve and Interpret Transportation, Transshipment and Assignment Problems
7. Formulate, Solve and Interpret Binary, Integer and Mixed Integer Linear Programming Models
8. Solve Multi Criteria Decision Making Problems using scoring model and Analytical Hierarchy Process

### E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted