

MANAGEMENT SCIENCE - Department Code: MAS

[Management Science](#)

INTRODUCTION

Management Science uses the ideas and methods of science, mathematics, statistics, and computing to help managers make better decisions. Management Science had its modern origins in the study of military operations during World War II; hence this field of study may also be called Operations Research. Today, Management Science/Operations Research is applied in a wide variety of areas including financial modeling, marketing research, organizational theory, transportation and logistics, health care, environmental protection, and manufacturing. Almost any decision you make can benefit from the methods of Management Science.

EDUCATIONAL OBJECTIVES

The curriculum in the Department of Management Science is designed to give students the necessary educational background and experience to allow them to work as successful Management Science analysts. In addition to the general education, business, and economics courses of the Bachelor of Science in Business Administration degree program, the major in Management Science requires a solid background in the natural sciences and mathematics. Additionally, students are required to take sequences of courses in calculus-based statistics, deterministic and stochastic modeling, and computer programming. A number of the courses in the curriculum require projects that have students evaluate a realworld system or process. As the system is studied and modeled, the students apply the methods of Management Science to find ways to improve the process. The written and oral presentation of their findings is part of the learning and evaluation process. A major or minor in Management Science is recommended to qualified students as preparation for direct entry into the field of Management Science or as preparation for future graduate studies.

DEGREE PROGRAMS

The Bachelor of Science in Business Administration (BSBA) is awarded for the major in Management Science by meeting the appropriate School of Business Administration requirements.

MAJOR

The Department of Management Science offers both a major and minor for students pursuing the Bachelor of Science in Business Administration degree. All required courses within the major or minor in Management Science must be completed with a grade of "C-" or higher. Additionally, the cumulative grade point average of the Management Science major or minor course work must be 2.5 or higher. The coursework for obtaining a major in Management Science is as follows:

Required Core (15 semester hours)

MAS441 Deterministic Models in Operations Research
MAS442 Stochastic Models in Operations Research
MAS452 Systems Analysis Methodology and Applications
MAS547 Computer Simulation Systems
CIS320 Introduction to Programming

and

One (1) of the following courses:

CIS323 Object-Oriented Programming in C++

CIS324 Object-Oriented Programming in Java

CIS360 Analysis of Information Systems

MAS548 Systems Dynamics Modeling and Analysis

MINOR

Available only for majors in the Bachelor of Science in Business Administration.

The coursework required for a minor in Management Science is as follows:

MAS441 Deterministic Models in Operations Research

MAS442 Stochastic Models in Operations Research

MAS452 Systems Analysis Methodology and Applications

All courses must be taken within the current prerequisite structure.

DEPARTMENTAL HONORS

Students interested in having departmental honors entered on their diploma must meet the general requirements outlined by the School of Business Administration and must complete the departmental course requirements with a grade of "B+" or higher. Students interested in having departmental honors must also complete a three semester hour thesis/project under MAS499 Directed Study, as part of their electives. This project must be approved by the Department Chair by the end of the student's junior year (90 semester hours) of study.

Students wishing to be considered for graduation *magna cum laude* or *summa cum laude* are required to write an honors thesis. These students must confer with the department chairman to select a thesis topic at the end of their junior year (90 semester hours) of study.

[Management Science Course Listing](#)