



Bachelor of Arts in Business Administration Management Science

College of Business and Economics

Why should I select a management science concentration in the College of Business and Economics at Cal State Fullerton?

Management science is one of the fastest growing fields in business. The tremendous growth in computing power has resulted in management science applications being incorporated in more and more organizations. Surveys conducted on career growth have consistently listed management science as one of the top ten fields in terms of future opportunities. As a result, students studying management science are well-positioned to assume careers in a variety of business situations that require good quantitative and computer skills.

At Cal State Fullerton, faculty members in the Department of Information Systems and Decision Sciences are world-renowned leaders in their academic disciplines and have Ph.D. degrees from universities such as UC Berkeley, Northwestern, Claremont Graduate School, UCI and Case Western. In addition, our faculty members also have an international orientation and many have lived and worked overseas.

Because the program provides a solid and well-rounded foundation, alumni have gone on to successful careers in such diverse fields as marketing, defense and education. In addition, the program is also ideal for those students interested in pursuing graduate education.

What is management science?

Management science is the application of the scientific method to decision-making in business and government. In practice, nearly all management science problems involve solutions using computers. The management science concentration at Cal State Fullerton consists of the disciplines of operations research and statistics. Operations research uses mathematical and simulation models to provide decision-makers with quantitative information pertaining to complex business situations. Statistics assists decision-makers by using techniques designed to draw inferences from experimental and sampling data.

Situations that require operations research techniques arise in many areas of business, including accounting, finance, production, marketing, and research and development. Among the problems addressed by operations research techniques are the determination of inventory strategies, the allocation of

scarce resources and the design of service systems. Others include bidding in competitive environments, selection of equipment replacement strategies and scheduling the completion of large projects.

Statisticians are often involved in activities such as sales forecasting, quality control and financial analysis. Statistics is also concerned with model building and the design of experiments dealing with product testing, surveys and sampling.

What career opportunities are available?

The management science concentration is designed for students interested in such fields as actuarial sciences, market research, quality control, production, operations research or statistical analysis. Students studying this concentration receive a good foundation in the use of computers in decision-making, as well as optimization and statistical concepts.

What are the program requirements?

Our program leads to a Bachelor of Arts degree in Business Administration with a concentration in Management Science. To earn the degree, all students are required to complete the university's general education requirements, as well as the following three areas of the business administration major:

Business Administration Core Courses (51 units)

All students in business administration are required to complete a common body of core requirements covering the foundation areas of business administration and global business. The core insures that every graduating student will have the intellectual and professional tools in the fields of accounting, economics, finance, management, information systems/decision sciences and marketing to succeed in a responsible position in the business world.

Lower-Division Courses:

Accounting 201A Financial Accounting

Accounting 201B Managerial Accounting

Business Administration 201 Business Writing

Economics 201 Principles of Microeconomics

Economics 202 Principles of Macroeconomics

Info Sys/Decision Sci 265 Intro to Information Systems and Applications

Management 246 Business and its Legal Environment

Math 130 Short Course in Calculus

OR Math 135 Business Calculus

OR Math 150A Analytic Geometry and Calculus

Upper-Division Courses:

Business Admin 301 Advanced Business Communication

Econ 310 Intermediate Microeconomic Analysis

OR Econ 315 Intermediate Business Microeconomics

OR Econ 320 Intermediate Macroeconomic Analysis

Finance 320 Business Finance

Info Sys/Decision Sci 361A QBA: Probability and Statistics

Info Sys/Decision Sci 361B QBA: Statistics and Management Science
Global Business Elective
Management 339 Principles of Management and Operations
Management 340 Organizational Behavior
Marketing 351 Principles of Marketing

Specialized Courses in the Management Science Concentration (18 units)

The management science concentration requires the completion of six upper-division courses.

Required Courses (9 units)

Info Sys/Decision Sci 309 Introduction to Operating Systems
and Programs (3 units)
Info Sys/Decision Sci 310 Systems Analysis and Design (3 units)
Info Sys/Decision Sci 440 Integrative Decision Tools for Business Operations
(3 units)
OR Info Sys/Decision Sci 442 Business Modeling Using Spreadsheets
(3 units)

Electives in Statistics

In addition, students must select at least one course dealing with statistical concepts from among the following:

Info Sys/Decision Sci 422 Surveys and Sampling Design and Applications (3 units)
Info Sys/Decision Sci 461 Statistical Theory for Management Science (3 units)
Info Sys/Decision Sci 467 Statistical Quality Control (3 units)
Info Sys/Decision Sci 472 Design of Experiments (3 units)
Info Sys/Decision Sci 473 Applied Statistical Forecasting (3 units)
Info Sys/Decision Sci 474 Data Mining (3 units)
Info Sys/Decision Sci 475 Multivariate Analysis (3 units)

Other Electives (6 units)

Info Sys/Decision Sci 408 Database Management Systems (3 units)
Info Sys/Decision Sci 411 Microcomputer Business Application Design (3 units)
Info Sys/Decision Sci 415 Decision Support and Expert Systems (3 units)
Info Sys/Decision Sci 465 Linear Programming in Management Science
(3 units)
Info Sys/Decision Sci 490 Queuing and Stochastic Models in
Management Science (3 units)
Economics 440 Introduction to Econometrics (3 units)
Finance 360 Principles of Insurance (3 units)
Finance 444 Options and Futures (3 units)
Management 442 Production and Inventory Control (3 units)
Management 430 Integrated Logistics Management (3 units)
Management 444 Project Management (3 units)
Math 390 Introduction to Actuarial Science (3 units)
An additional course in Statistical Concepts (3 units)

Capstone Course (3 units)

The program culminates with the capstone course, Management 449, Seminar in Strategic Management. This seminar provides an additional focus on what has been learned in the core and concentration through applications in significant, current and real business problems.

What are some special features and programs in management science?

Students in the management science concentration are encouraged to apply their knowledge to real-world business situations. In a number of courses, students will be engaged in addressing the information systems needs of a local company through a group project. Additionally, the management science/information systems department has an active paid internship program. Students are encouraged to do an internship prior to graduation.

What scholarships and awards are available?

Students in the management science concentration are eligible for a number of scholarships and awards, in addition to those available to the general student body. The department sponsors a corporate scholars program that combines an internship with a scholarship. Students should call the Information Systems and Decision Sciences office at (714) 278-2221 for more information on these programs.

What student activities can I join?

Students in the management science concentration are encouraged to join the Association of Information Technology Professionals (AITP) Club, and the Student INFORMS club. The clubs' goals are to learn about the cutting edge technology in the field of management science and to network with other students who have the same academic interests.

Who advises me?

Academic advisement for all undergraduate business students can be obtained in the Business Advising Center. Information is available on admission requirements, curriculum and graduation requirements and transfer course evaluations. The Center is located in Langsdorf Hall 731, and is open Monday through Thursday on a walk-in basis. For further information and specific hours, please call (714) 278-2211, or visit our website at www.business.fullerton.edu.

Where can I learn more?

For additional information on careers or specific questions about courses in the Management Science program, you may contact one of our faculty career path advisers. Office hours, phone numbers and e-mail addresses for faculty members are available from the department office (Langsdorf Hall 540) at (714) 278-2221, or visit our website at: www.business.fullerton.edu/msis/.