

Management Science (MGSC)

Courses

MGSC 1990. Elective. (1-4 Hours)

Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

MGSC 2301. Business Statistics. (4 Hours)

Offers students an opportunity to obtain the necessary skills to collect, summarize, analyze, and interpret business-related data. Covers descriptive statistics, sampling and sampling distributions, statistical inference, relationships between variables, formulating and testing hypotheses, and regression analysis in the context of business. Use of the SPSS statistical programming package is an integral part of the course.

Attribute(s): NUpath Analyzing/Using Data

MGSC 2990. Elective. (1-4 Hours)

Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

MGSC 3990. Elective. (1-4 Hours)

Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

MGSC 4990. Elective. (1-4 Hours)

Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

MGSC 6100. Quantitative Foundations of Finance and Data Analytics. (3 Hours)

Covers the quantitative skill sets that are crucial for success in data analytics and finance. Explores basic quantitative techniques of descriptive, predictive, and prescriptive analytics. Topics include descriptive statistics, data visualization, probability and modeling uncertainty, sampling, estimation and confidence intervals, hypothesis testing, and simple and multiple regression analysis. Uses various software packages for analyzing datasets and creating visualizations. Provides an in-depth overview of basic mathematics commonly used in finance. Topics include exponents and logarithms, systems of linear equations, compounding and geometric averages, evaluating large operators (e.g., summation expression), laws of natural logarithms, derivatives and first order conditions, and constrained maximizations. Uses Excel frequently but does not require prior experience with Excel.

MGSC 6200. Information Analysis. (3 Hours)

Provides students with basic information analysis skills and tools needed to manage effectively in today's information-intensive business climate. Exposes students to analytical problems from different areas of business and the quantitative concepts and techniques that can analyze them. Course objectives are to improve the information analysis skills of the students, to provide students with a working knowledge of important statistical tools, to help students become more critical evaluators of studies and reports involving statistical and quantitative methods, and to improve skills in communicating the results of analyses. Offers students the opportunity to learn how to evaluate, analyze, and interpret data, and present their findings and conclusions that will be most useful for managerial decision making through the use of business applications and analytical software.

MGSC 6201. Information Systems and Technology. (3 Hours)

Provides students with a fundamental understanding of the impact of technology on the organization and its financial systems. In particular, students are exposed to the new business models that technology enables and the control issues that these business models create. Discusses emerging technologies, digital business, supply chain, customer relationship management, and other technology subjects. Requires admission to MS/MBA program.

MGSC 6204. Managing Information Resources. (1.5 Hours)

Focuses on issues of the strategic uses of information technology for competitive advantage, support of business processes, information and control, digital business, integration of business with technology, organizational communication, and data management. Information has become a key resource in doing business. Managers must understand that high-quality information adds value to existing products and services, enhances the creation of new products, changes the efficiency and effectiveness of business processes, and affects relationships with customers, suppliers, and competitors.

MGSC 6221. Introduction to Health Informatics and Health Information Systems. (3 Hours)

Introduces the history and current status of information systems in healthcare: information architectures, administrative and clinical applications, evidence-based medicine, information retrieval, decision support systems, security and confidentiality, bioinformatics, information system cycles, the electronic health record, key health information systems and standards, and medical devices.

MGSC 6281. Service Innovation and Management. (3 Hours)

Examines innovation in services and the internal management of business processes. Uses a framework of service/process redesign. Emphasizes strategic initiatives and key organizational change elements critical for improving services to customers; increasing profitability; and building long-term customer loyalty across multiple industry sectors, including information technology, healthcare, financial services, and government. Introduces the various strategic aspects of process improvement in the delivery of services, including managing change and the resulting impact on the organization, supply-chain management in the service industry, process improvement, overcoming organizational resistance, customer involvement, empowerment, and the role of leadership in managing operations. Through guided project work, offers students an opportunity to apply these concepts to services and internal business processes at their own organizations.

MGSC 6962. Elective. (1-4 Hours)

Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

MGSC 7976. Directed Study. (1-4 Hours)

Offers independent work under the direction of members of the department on chosen topics. May be repeated without limit.