MGSC 1990. Elective. 1-4 Hours.
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

MGSC 2201. Operations Management. 2 Hours.
Considers the productive system of an enterprise whereby inputs of people, materials, information, and technology are transformed into useful goods and/or services. Topics include types of production processes, process flow analysis, capacity analysis, inventory and quality management, and so on. Provides an overview of the problems and issues encountered by an operations manager. Although a variety of models and techniques are discussed, the emphasis is on the problem formulation, managerial implication, and the impact on operations strategy.

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.

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 4993. Independent Study. 1-4 Hours.
Allows students who have received approval to undertake independent study in lieu of any course required in the various concentrations. Students present proposals to an Independent Studies Committee for evaluation and approval. Every proposal requires a detailed outline of the objectives and plan of study and must be accompanied by a supporting statement from the supervising faculty member under whose direction the study takes place. A copy of the final report prepared by the student is presented to the appropriate Independent Studies Committee. Further information about the Independent Studies Program can be obtained from concentration coordinators. May be repeated without limit.

MGSC 5976. Directed Study. 1-4 Hours.
Offers independent work under the direction of members of the department on chosen topics. May be repeated without limit.

MGSC 5978. Independent Study. 1-4 Hours.
Allows students who have received approval to undertake independent study in lieu of any course required in the various concentrations. Students present proposals to an Independent Studies Committee for evaluation and approval. Every proposal requires a detailed outline of the objectives and plan of study and must be accompanied by a supporting statement from the supervising faculty member under whose direction the study takes place. A copy of the final report prepared by the student is presented to the appropriate Independent Studies Committee. Further information about the Independent Studies Program can be obtained from concentration coordinators. May be repeated without limit.

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 Hour.
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 6205. Management of Information Resources. 2 Hours.
Examines information and its role as a key resource in business. Today's managers must understand that well-managed information can add value to facilitate the creation and revision of new products and services; promote the efficiency and effectiveness of business processes of the global extended enterprise; and transform the relationships with customers, suppliers, and competitors. Covers topics including the strategic uses of information and information technology; the role of information for transforming business processes; e-commerce; and the alignment of business processes, technology, and information.

MGSC 6206. Management of Service and Manufacturing Operations. 3 Hours.
Focuses on decision making by an operations manager. The operations manager's major job function is to provide quality products and services desired by customers, on time and at a competitive cost. Helps the operations manager to perform this function in both the manufacturing and service sectors of the economy. Explores operations management concepts, techniques, and models. These include the optimum allocation and efficient utilization of manpower, materials, equipment, and technology at strategic and tactical levels in the organization. Topics include process analysis, capacity planning, materials management, resource allocation, quality management, and scheduling.
MGSC 6207. Data Analysis for Decision Making. 2 Hours.
Covers basic statistical skills in using methods of data analysis. Seeks to improve analytical skills of the students, to develop knowledge and appreciation for models and other technical tools, and to prepare students to be effective communicators of their analyses and findings to management. Uses business applications and computer software to teach students how to evaluate, analyze, and interpret data and models and present their findings and conclusions to assist in rational decision making. Topics include statistical sampling, estimation, testing hypotheses, and basic regression models.

MGSC 6208. Operations Management. 2 Hours.
Examines decisions related to the design, running, and control of operations systems. Addresses the issues confronting operations managers whether in the service or the manufacturing sectors of the economy. Operations are of primary importance in the implementation of corporate strategy and fundamental to supply chain strategies for competitive advantage. Explores concepts, techniques, and models that support the operations manager’s job to provide customer-centric, innovative, high-quality products and services, on time and at a competitive cost. These include the effective and efficient allocation of resources, such as technology, information, manpower, materials, and equipment at different levels of the organization. Discusses the analysis of different types of processes, capacity and quality planning, project management, and materials management in a collaborative supply chain environment.

MGSC 6209. Business Statistics. 3 Hours.
Offers an introductory course in business statistics. Seeks to provide students with the opportunity to learn the most common statistical and analytical tools used in business decision making and to develop skills that enable them to recognize business problems and which statistical methods can be used most effectively given the problem.

MGSC 6210. Information Systems Global Enterprise. 3 Hours.
Focuses on what companies need to do to take full advantage of new information technologies that the Internet and other emerging technologies provide. The information economy has produced profound effects on doing business, and it will continue to do so in the future. New business opportunities are being created, and traditional businesses are being transformed in the electronic business environment. Emphasis is on supply chain issues, telecommunication issues, the role of the electronic marketplace, and effective uses of the Web.

MGSC 6211. Research Methods. 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 6212. Data Management. 3 Hours.
Provides a management-oriented introduction to data administration, database management systems (DBMS), and their impact on business. Data drives businesses and are necessary for businesses to function and for customers to buy products and services. Topics include the rationale for the DBMS approach, database design, data models, DBMS software tools, and the role of the database administrator. Gives students the opportunity to use a DBMS package, gain experience in database design, and use a query language.

MGSC 6213. Business Data Communications. 3 Hours.
Focuses on the key technical and managerial issues governing the effective deployment and use of data communication technologies within a business. Discusses telecommunication fundamentals including telecommunication hardware, network topologies and protocols, network security, and installation of networks for both local and global business communications. Emphasis is on developing the ability to evaluate and then select from a variety of connectivity options, conduct a network performance analysis, conduct a cost-benefit analysis, and manage a data communications network. Also discusses the role of a systems or network administrator.

MGSC 6214. Knowledge Management. 1.5 Hour.
Discusses how knowledge differs from data and information, the role knowledge plays in organizations, and the role information technology can play in managing that knowledge. Knowledge is a key strategic resource in today’s economy, and organizations must create and share it effectively to be successful. Some of the most creative applications of information technology are those that enable teamwork, communication, problem solving, and innovation.

MGSC 6215. Business Strategy in a Digital Business Economy. 1.5 Hour.
Focuses on what companies need to do to take full advantage of new information technologies that the Internet and other emerging technologies provide. The information economy has produced profound effects on doing business, and it will continue to do so in the future. New business opportunities are being created, and traditional businesses are being transformed in the electronic business environment. Emphasis is on supply chain issues, telecommunication issues, the role of the electronic marketplace, and effective uses of the Web.

MGSC 6216. Information Analysis and System Design. 3 Hours.
Covers the concepts, skills, and techniques needed to integrate and appreciate for models and other technical tools, and to prepare students to be effective communicators of their analyses and findings to management. Uses business applications and computer software to teach students how to evaluate, analyze, and interpret data and models and present their findings and conclusions to assist in rational decision making. Topics include statistical sampling, estimation, testing hypotheses, and basic regression models.

MGSC 6217. Business Systems Integration Strategy. 3 Hours.
Covers the concepts, skills, and techniques needed to integrate information systems. The dramatic growth in business being conducted over the Internet, the rapid change of business models, and the wave of corporate mergers have boosted dramatically the need for integrated business information. These demands force organizations to introduce new approaches and techniques to integrating business systems within the company and between companies.
MGSC 6223. Manufacturing Policy. 3 Hours.
Focuses on how to gain competitive advantage through manufacturing rather than just improving operational performance. Effective manufacturing fits the needs of the business, and strives for consistency between its capabilities and policies and the competitive advantage sought. To do so requires translating the business strategy into an appropriate collection of bricks and mortar, equipment, people, and procedures. Being able to move from the level of specific decisions to developing general capabilities—and back again—is central to developing and implementing an effective manufacturing strategy.

MGSC 6224. Quality Management. 3 Hours.
Introduces quality management in various sectors of the economy. Provides students with an appreciation of the need for quality assurance in both the manufacturing and service environments. Emphasizes quality in the production and maintenance of software. Provides a general introduction to some of the technical/statistical tools used in quality assurance and control. Offers a forum to discuss and promote the concept of total quality and its implementation.

MGSC 6225. Mass Customization. 3 Hours.
Overviews mass customization, which refers to designing, manufacturing, testing, and delivering products according to the customers’ individual requirements but at costs not significantly higher than mass production. It combines the productivity and cost advantages of mass production with the variety and quality of custom production. The paradigm shift toward mass customization is taking place in both manufacturing and service industries. Topics include manufacturing processes, typology of mass customization, information needs and customer focus, and implementation of a mass customization project. It is based on principles of industrial engineering, mechanical engineering, management science, and marketing.

MGSC 6226. Statistical Methods and Applications in Functional Areas of Business. 3 Hours.
Surveys a variety of statistical models and applications of multivariate data that arise in functional areas of business like marketing, organizational behavior, and finance. Emphasizes the applications of statistical models, such as multiple regression, clustering, discriminant analysis, logistic regression, and factor analysis. Introduces time series models that are relevant to the study of financial markets. Offers a blend of statistical theory and statistical practice on business-related data for informed decision making.

MGSC 6227. Project Management. 3 Hours.
Explores managing in a project environment from definition, planning, and implementation through managing the project termination phase. Examines alternative organizational structures, development of a work breakdown structure, cost estimation, management of project teams, scheduling techniques, risk management, and tailoring of communication patterns and monitoring and control systems to specific projects. Introduces software specifically designed for scheduling and performing risk analysis in project environments.

MGSC 6228. Management of Service Operations. 3 Hours.
Introduces students to the problems and issues faced by managers in managing service operations. Develops the basic analytical skills required for solving the problems encountered, and provides a managerial perspective. Examines the general management tasks of executives at more senior levels of management and seeks to tie those to the middle-management tasks of managing the frontline operations. A major theme is that service operations are of primary importance in the implementation of business and corporate strategy. Thus we need to consider aspects of corporate strategy in order to determine priorities.

MGSC 6229. Business Statistics. 2 Hours.
Focuses on building students' analytical skills by using such tools as charts and tables to describe information, estimate, explore relationships, build regression equation, and predict results. Students gain insight about business situations where information analysis tools can be useful. Enhances the ability to communicate analytical results with written reports.

MGSC 6290. Analytical Models and Methods. 3 Hours.
Presents analytical techniques and their applications that are useful for a variety of business problems ranging from basic market research to managerial forecasting. Emphasizes understanding analytical models and decision making rather than computational tasks for which computers are more suitable. Covers techniques and methods including statistical analysis of single- and multivariate data, regression and forecasting models, and conjoint analysis.

MGSC 6291. Creating Value through Process Improvement. 2 Hours.
Focuses on the process through which organizations transform inputs into outputs—both products and services—for customers. Examines, in particular, how some organizations have achieved breakthrough performance, reengineering their operations processes through application of lean, total quality management (TQM), just-in-time (JIT), and six sigma concepts. Students tour a local manufacturing company that practices lean six sigma and hear from senior management about its strategic impact. Offers students an opportunity to develop their ability to describe, analyze, and synthesize transformation processes; make and implement sound operations decisions; and develop effective operational design by achieving congruence among people, processes, and technology. Topics include quality management, continuous improvement, and service management.

MGSC 6260. Advanced Topics in Information Resources Management. 3 Hours.
Offers an in-depth examination of selected issues and problems in information resource management that are of current interest to faculty and students. Specific topics alternate depending on faculty availability and interest as well as student enrollment criteria.

MGSC 6261. Advanced Topics in Operations Management. 3 Hours.
Offers an in-depth examination of selected issues and problems in operations management that are of current interest to faculty and students. Specific topics alternate depending on faculty availability and interest as well as student enrollment criteria.

MGSC 6280. Advanced Topics in Information Resources Management. 3 Hours.
Offers an in-depth examination of selected topics that are of current interest to faculty and students. Specific topics alternate depending on faculty availability and interest as well as student enrollment criteria.

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 6290. Business Statistics. 2 Hours.
Focuses on building students' analytical skills by using such tools as charts and tables to describe information, estimate, explore relationships, build regression equation, and predict results. Students gain insight about business situations where information analysis tools can be useful. Enhances the ability to communicate analytical results with written reports.

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MGSC 6292. Delivering Competitive Advantage through IT Strategy. 2 Hours.
Examines how to provide leadership in information technology (IT) management. Offers students an opportunity to learn how information and information systems can be a strategic resource for managing organizations and supporting business functions and processes. Examines how IT facilitates the capture, analysis, and sharing of a company's information that, in turn, can be used to better control the enterprise and to enable learning and innovation. Topics include enterprise resource planning (ERP) systems, business intelligence, and Internet challenges and opportunities.

MGSC 6960. Exam Preparation—Master's. 0 Hours.
Offers the student the opportunity to prepare for the master's qualifying exam under faculty supervision.

MGSC 6962. Elective. 1-4 Hours.
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

MGSC 6964. Co-op Work Experience. 0 Hours.
Provides eligible students with an opportunity for work experience. 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.