Management Science (MSC)

MSC 287 - BUSINESS STATISTICS I
Semester Hours: 3
Introduction to probability and business statistics. Covers: tabular, graphical, and numerical methods for descriptive statistics; measures of central tendency, dispersion, and association; probability distributions; sampling and sampling distributions; and confidence intervals. Uses spreadsheets to solve problems. Prerequisite: Any 100 level MA course.

MSC 288 - BUSINESS STATISTICS II
Semester Hours: 3
Inferential statistics for business decisions. Topics include: review of sampling distributions and estimation; inferences about means, proportions, and variances with one and two populations; good of fit tests; analysis of variance and experimental design; simple linear regression; multiple linear regression; non parametric methods. Prerequisite: MSC 287.

MSC 385 - OPERATIONS ANALYSIS
Semester Hours: 3
Survey of the firm's production function and quantitative tools for solving production problems, quality management, learning curves, assembly and waiting lines, linear programming, inventory, and other selected topics (e.g., scheduling, location, supply chain management). Uses the SAP software. Prerequisite: MSC 288.

MSC 410 - TRANSPORTATION & LOGISTICS
Semester Hours: 3
An analysis of transportation and logistical services to include customer service, distribution operations, purchasing, order processing, facility design and operations, carrier selection, transportation costing, and negotiation. Prerequisite: MKT 301.

MSC 411 - SUPPLY CHAIN MANAGEMENT
Semester Hours: 3
Supply chain management focuses on networks of companies that deliver value to customers. The course focuses on understanding integrated supply chains and examines how product development and design, demand, marketing, globalization, customer locations, distribution networks, suppliers and ERP systems impact a company's supply chain design. Prerequisite: MSC 287.

MSC 412 - ARMY SENIOR LOGISTICIAN-ADVANCED
Semester Hours: 3
The Senior Logistician Advanced Course (SLAC) is part of the U.S. Army's Master Logistician Certificate Program for logistics management specialists within the 0346 occupational series. SLAC is an 80-hour academic learning experience designed to improve senior logistician competencies at the strategic level. The program is organized around the logistics management specialist's 12 competencies, and the coursework is specially designed to better develop and further enrich the thinking and skills of the Army's Senior Logisticians. Special approval and enrollment in CPCS U.S. Army Senior Logistician Advanced Course required.

MSC 450 - INTRODUCTION TO ANALYTICS AND PROGRAMMING
Semester Hours: 3
Data analysis and forecasting using different statistical techniques in Python. Topics include linear regression, diagnostics, model correction, assessment and validation, feature selection, missing data, leverage and outliers, logistic regression, classification, and ARIMA models for time series. Prerequisite: MSC 288 or IS 210.

MSC 469 - DATA VISUALIZATION AND LEADERSHIP COMMUNICATION
Semester Hours: 3
In depth study of visualization theory and applications, including Tableau, Python data visualization modules, and data visualizations in R. This course will emphasize communication skills and techniques for effective technical and leadership presentations. Prerequisite: IS 210 and either IS 471 or MSC 450 (with concurrency).

MSC 470 - SPECIAL TOPICS IN MANAGEMENT SCIENCE
Semester Hours: 3
In depth study of a selected topic relevant to contemporary management science. Different sections of this course may address different topics.

MSC 490 - SPECIAL PROJECTS
Semester Hours: 3
Independent study in an area of interest to the student in the field of management science. Approval of department chair is required.
MSC 494 - PRACTICUM IN MANAGEMENT SCIENCE
Semester Hours: 3
Student teams will apply management science concepts and skills in a semester-long simulation or management science project conducted for a client firm or non-profit. The teams will be closely supervised by a faculty member with expertise related to the simulation or project. Prerequisite: MSC 287, MSC 288 and MSC 385.

MSC 495 - INTERNSHIP IN MANAGEMENT SCIENCE
Semester Hours: 3
Active involvement in a project in a business enterprise, professional organization or in a government agency that has particular interest and relevance to the student. Subject to College's guidelines on internships.