

# DECISION SCIENCES

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## Courses

### DSC 210. Statistics for Business I. 3 Hours

Basic concepts of statistics including descriptive statistics, probability, probability distributions, and estimation. Prerequisites: MTH 129 or MTH 148 or MTH 168; BIZ 200 or BIZ 201 (may be taken as a corequisite).

### DSC 211. Statistics for Business II. 3 Hours

Tests of hypotheses, analysis of variance, Chi-square tests, simple and multiple regression and correlation. Use of computer software for statistical data analysis. Prerequisites: MTH 129 or MTH 148 or MTH 168; BIZ 200 or BIZ 201; DSC 210.

### DSC 313. Advanced Business Statistics. 3 Hours

Selected topics from advanced statistics with emphasis on business applications. Prerequisite(s): DSC 211 or equivalent.

### DSC 375. Management Science. 3 Hours

Quantitative modeling applications for managerial analysis and decision making. Develops skills to analyze and solve problems using computer-based mathematical modeling in a wide variety of business decision situations involving business functional areas such as accounting, economics, finance, human resources, marketing, management information systems, and operations management. Topics include constrained modeling techniques, simulation, and multi-criteria decision making. Prerequisites: DSC 211.

### DSC 410. Decision Theory. 3 Hours

Introduction to the analysis of decisions under uncertainty. Topics include structuring of the decision process, Bayesian decision theory, and multicriteria decision making. Prerequisite(s): DSC 211 or equivalent.

### DSC 415. Simulation Modeling & Analysis. 3 Hours

Introduction to simulation models in support of business decision making. Emphasis on building and analyzing models in a variety of applications, including manufacturing and service systems. Study and use of a simulation language. Prerequisite(s): DSC 211; DSC 375 recommended.

### DSC 435. Analysis of Factory Systems. 3 Hours

Concepts and techniques for the analysis, design, and management of factory production systems. Work-flow layout, scheduling techniques, stochastic process models, simulations, and computerized factory models Prerequisite(s): DSC 375, OPS 301.

### DSC 491. Honors Thesis. 3 Hours

Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson.

### DSC 492. Honors Thesis. 3 Hours

Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson.

### DSC 494. Seminar in Decision Sciences. 3 Hours

Study of selected topics or issues in applied statistics, quantitative business analysis, and production and operations management. Topics vary from time to time. May be taken more than once if topics change. Title will reflect topics covered in a particular offering.

### DSC 497. Laboratory Work Experience. 1-6 Hours

Under faculty sponsorship and in association with a participating industrial, commercial, educational, health-care, or governmental organization, practical experience in work associated with the student's minor concentration. (See internship coordinator for details.) Does not satisfy MIS elective. Permission of chairperson required. Prerequisite(s): Permission of department chairperson.

### DSC 498. Cooperative Education. 3 Hours

Optional full-time work period off campus alternating with study period on campus. Prerequisite(s): Permission of department chairperson.

### DSC 499. Independent Study in Decision Sciences. 1-6 Hours

Research in conjunction with a faculty member on a subject within the general area of decision sciences. Normally open only to juniors and seniors who have attained a cumulative grade-point average of 3.0 or above. Permission of chairperson required. Prerequisite(s): Permission of department chairperson.