

# DECISION SCIENCES (DS)

Visit the [Course Schedule Search website](#) to find out when courses will be offered during the academic year.

*Read more about the courses within this subject prefix in the descriptions provided below.*

## DS 444 - Meaning of Entrepreneurship

**Credits:** 4

This course explores the idea and ideals of entrepreneurship, the creating of value through individual initiative, creativity and innovation. The idea of entrepreneurship is of significant relevance in the highly dynamic and competitive 21st century global economy. It is an idea that is important for students to understand and to critically consider and apply. Encourages the development of multiple views of entrepreneurship, and uses a broad, not just business, approach to the study as it engages students in the subject matter. Open to all majors.

**Attributes:** Environment, TechSociety(Disc); Inquiry (Discovery); Writing Intensive Course

**Grade Mode:** Letter Grading

## DS 520 - Topics in Entrepreneurship/Decision Sciences

**Credits:** 4

Special topics in entrepreneurship, information systems and business analytics. Vary by semester.

**Repeat Rule:** May be repeated for a maximum of 8 credits.

**Grade Mode:** Letter Grading

## DS 620 - Topics in Decision Sciences

**Credits:** 1-4

Special topics, vary by semester.

**Repeat Rule:** May be repeated for a maximum of 12 credits.

**Grade Mode:** Letter Grading

## DS 650 - The Mel Rines Student Angel Investment Fund

**Credits:** 2

The Mel Rines Student Angel Investment Fund is a cross-disciplinary, undergraduate, student-managed private equity fund. The Fund allows students to learn angel and venture capital investment strategies through the first-hand experience of investing in start-up companies. Students evaluate entrepreneur pitches, conduct due diligence on potential investments, work with angel partners, and present to an investment committee their recommendations to invest capital. Students interested in joining the Fund must submit an application and undergo an interview process. Students in good standing may retake the course.

**Repeat Rule:** May be repeated for a maximum of 12 credits.

**Grade Mode:** Letter Grading

## DS 652 - Artifex

**Credits:** 2

Artifex aims to equip its members with the essential skills of a data scientist. The course delivery is a mix of lectures and project-based learning. Lectures and course content are tailored to the business analytics project(s) we are working on in any given semester. Artifex is also an active and growing student club. As such, Artifex is a great opportunity to network with other students and professionals who are passionate about using data to improve the way businesses work.

**Repeat Rule:** May be repeated for a maximum of 8 credits.

**Grade Mode:** Credit/Fail Grading

## DS 662 - Programming for Business

**Credits:** 4

Introduces students to programming concepts. Covers fundamentals including functions, variable types, conditionals, and data structures. Students apply these concepts to a variety of business analytics problems including data collection, wrangling, reshaping, summarizing, and visualization.

**Prerequisite(s):** ADMN 410 with a minimum grade of C-.

**Equivalent(s):** DS 562

**Grade Mode:** Letter Grading

## DS 671 - Data Visualization and Prescriptive Analytics

**Credits:** 4

The course focuses on Descriptive and Prescriptive Analytics. Students gain modeling and data analysis and visualization skills necessary to address a wide variety of business problems. In Descriptive Analytics, students learn principles of data visualization, data cleanup and wrangling, advanced data analysis and visualization tools, and dashboard design. In Prescriptive Analytics, students learn advanced spreadsheet modeling/programming, formulating and solving a variety of optimization problems, and performing sensitivity analysis.

**Prerequisite(s):** ADMN 410 with a minimum grade of C- and ADMN 510 with a minimum grade of C-.

**Equivalent(s):** DS 766

**Mutual Exclusion:** No credit for students who have taken SC 671.

**Grade Mode:** Letter Grading

## DS 673 - Database Management

**Credits:** 4

Provides students with the skills necessary to understand the database environment of the firm. Topics include data models, normalization, SQL, data warehouses, and nosQL databases. Students learn to design and implement moderately complex relational databases in multi-user, client/server environments.

**Prerequisite(s):** ADMN 410 with a minimum grade of C-.

**Equivalent(s):** DS 773

**Grade Mode:** Letter Grading

## DS 720 - Topics in Decision Sciences II

**Credits:** 4

Introduces students to commonly used predictive analytics techniques and necessary programming with focus on regression analysis and model building. The course coverage is supported with real data applications and illustrations. The topics include linear and non-linear regression model building/selection, residual analysis, search algorithms, generalized linear models/classification, and clustering algorithms.

**Repeat Rule:** May be repeated for a maximum of 8 credits.

**Grade Mode:** Letter Grading

## DS 741 - Startup Analytics

**Credits:** 4

This course introduces students to data analytics for startup capital management, with a special focus on leveraging AI and machine learning (ML) to optimize financial strategies, funding decisions, and investor relations. Through a hands-on approach, students will learn how to use data and machine learning techniques to forecast capital needs, evaluate funding sources, track startup performance, and optimize investor interactions. The course blends fundamental concepts of startup capital management with modern data-driven tools to help students make informed, data-centric decisions at each stage of startup growth.

**Prerequisite(s):** ADMN 570 with a minimum grade of C-.

**Grade Mode:** Letter Grading

**DS 742 - Internship in Entrepreneurial and Management Practice****Credits:** 4

Involves working for leading companies and dynamic entrepreneurs, as well as classroom instruction. The priority experiential, real-world, and real-time learning in the high-growth environment of entrepreneurial ventures. Focus on several topic areas, including venture capital.

**Grade Mode:** Letter Grading**DS 743 - Venture Scaling Strategies****Credits:** 4

"Venture Scaling Strategies" is an entrepreneurship course designed to equip students with the essential tools and frameworks to scale a business successfully. Based on Verne Harnish's book *Scaling Up*, this course dives into the critical areas of People, Strategy, Execution, and Cash to help students develop comprehensive scaling strategies. Through practical applications, case studies, and interactive discussions, students will learn how to navigate the complexities of growth, create effective strategic plans, manage financial resources, build high-performing teams, and implement operational systems to support expansion. Ideal for aspiring entrepreneurs and business leaders, this course provides the roadmap to take ventures to the next level. The course will include a practical, hands-on, engagement project.

**Grade Mode:** Letter Grading**DS 772 - Predictive Analytics and Modeling****Credits:** 4

The course introduces students to commonly used predictive analytics methods and necessary programming with a focus on regression analysis, classification, and model building. The course coverage is supported using real data applications and illustrations. The topics include linear and non-linear regression model building/selection, residual analysis, search algorithms, generalized linear models/classification, and applied machine learning methods for business use.

**Prerequisite(s):** ADMN 510 with a minimum grade of C-.**Grade Mode:** Letter Grading**DS 774 - E-Business****Credits:** 4

This course immerses students in the intersecting realms of technology and business. Students will explore key domains such as Artificial Intelligence, Cybersecurity, Global e-Business, Application Design, and Enterprise Systems, engaging in a hands-on, collaborative curriculum. Students will develop a strategic perspective on using IT innovations to drive business value, tackle real-world challenges, and build in-demand skills for dynamic technology careers.

**Prerequisite(s):** ADMN 410 with a minimum grade of C-.**Grade Mode:** Letter Grading**DS 775 - Corporate Project Experience****Credits:** 4

Provides real-life experience in organizations. Work in groups on information systems and/or business analytics projects identified by sponsoring organizations. Integrate concepts and skills learned in prior business, analytics, and information systems courses. Learn project management concepts, work with project management tools, and use presentation techniques. Two ISBA Electives required prior to taking this course.

**Attributes:** Writing Intensive Course**Prerequisite(s):** DS 673 with a minimum grade of C-.**Grade Mode:** Letter Grading**DS 799H - Honors Thesis in Decision Sciences****Credits:** 4

Supervised research leading to the completion of an honors thesis or project in decision sciences; required for graduation from the honors program in business administration.

**Attributes:** Honors course; Writing Intensive Course**Repeat Rule:** May be repeated for a maximum of 8 credits.**Grade Mode:** Letter Grading