DATA SCIENCES AND OPERATIONS

SPRING 2023 SEMESTER

DSO 536 – *Monte Carlo Simulation and Decision Models*

Professor
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When
Wednesday, 6:30 PM – 9:30 PM
(Meets in second second-half of Semester)

Office	Units
TBD	*1.5*

WHO SHOULD TAKE THIS COURSE?

Students who are interested in business analytics in general, and in techniques to account for risk in decision-making more specifically.

COURSE OBJECTIVES

To empower students with the knowledge to develop decision models in Excel that incorporate uncertainty, by using techniques like random number generation and Crystal Ball Excel plug-in.

KEY CONCEPTS

- Risk analysis
- Decision making under uncertainty
- Statistics and data analysis
- Random number generation
- Quantitative spreadsheet skills.
- Oracle "Crystal Ball" Excel plug-in

COURSE DESCRIPTION

We live in an uncertain world. In business and every-day life one must make decisions all the time with a stochastic outcome. Understanding this uncertainty by relying on rigorous methodology can help us make better decisions. Through simulation and risk analysis tools provided in this course, we can account for randomness in decision-making, by considering a range of possible outcomes, and their probabilities of occurrence for each possible course of action. Examples of uncertain situations where we will perform simulations and risk analysis will include many business fields like finance, marketing, accounting, and operations.

In relation to DSO 547 (Designing Spreadsheet-Based Business Models), this course focuses more on uncertainty modeling (without assuming knowledge from DSO 547).