Welcome to Decision Analytics: Course Overview

WHAT THIS COURSE IS ABOUT

This course covers the fundamental concepts, solution techniques, modeling approaches, and applications of decision analytics, with the purpose of introducing you to the most commonly used applied optimization, simulation, and decision analysis techniques for prescriptive analytics in business. You will explore topics from linear programming, network optimization, integer linear programming, goal programming, multiple objective optimization, nonlinear programming, metaheuristic algorithms, stochastic simulation, queuing modeling, decision analysis, and Markov decision processes. This course will help you to develop a contextual understanding of decision analytic techniques useful for providing managerial decision support by implementing the covered methods using state-of-the-art analytical modeling software. This is a problem and project-based course with a strong decision analytic modeling component.

RELEVANCE OF THIS COURSE

Decision analytics methods are essential skills in today's data-driven and decision-centric business environment where there is inherent uncertainty embedded in the real-world decision-making processes. The material covered in this course lies at the heart of prescriptive analytics, which suggests decision options on how to take advantage of a future opportunity or mitigate a future risk, while showing the implication of each decision option.

DECISION ANALYTICS HISTORICAL TIMELINE

On the following page of this module, you will find the Decision Analytics timeline, which presents milestones that shaped decision analytics. Many of the concepts on this timeline will be covered in this course.