Course Type	Course Code	Name of Course	L	T	P	Credit
DE	**NMSD 519**	**Operations Analytics**	3	0	0	3

Course Objective
Recent extraordinary improvements in data-collecting technologies have changed the way firms make informed and effective business decisions. The course on operations analytics focuses on how the data can be used to profitably match supply with demand in various business settings.
Learning Outcomes
In this course, students will learn how to model future demand uncertainties, how to predict the outcomes of competing policy choices and how to choose the best course of action in the face of risk.

Unit No.	Topics to be Covered	Lecture Hours	Learning Outcome
1	Introduction to Operations analytics Understanding and defining operations analytics, What involves in operations analytics, Decision Domains in operations analytics, Importance of analytics in Operations & Supply Chain Management, Key issues in operations analytics.	7	Understand the fundamental concept of Operations Analytics and its importance
2	Descriptive & Predictive analytics Basic concepts of random variable, descriptive statistics, common forecasting tools, and quality of forecast.	8	Get familiar with the forecasting tools and techniques
3	Prescriptive Analytics, Low uncertainty Solve operations problems in settings with low uncertainty using optimization models.	9	Understand the concept of deterministic problems and its applications
4	Predictive Analytics, Risk Evaluate and compare operations decisions when their impact is uncertain using simulation to estimate some common measures of risk and reward.	9	Understand how simulation can be used to address operations related problems
5	Prescriptive Analytics, High uncertainty Solve complex operations problems with high degrees of uncertainty using optimization, simulation, and decision trees together.	9	To get familiar with the tools to solve complex operations problems
	TOTAL	**42**	

Text Books:

1. Albright, S., & Winston, W. (2014). Business analytics: Data analysis &decision-making. Nelson Education.
2. T. A. S. Vijayaraghavan (2021),Supply Chain Analytics: Wiley.

Reference Books:

1. Chopra, S., & Meindl, P. (2016). Supply chain management: Strategy, planning, and operation. Pearson Publication.
2. Law, A. M., Kelton, W. D., & Kelton, W. D. (1991). Simulation modeling and analysis (Vol. 2). New York: McGraw-Hill.
3. Heizer, J. H., & Render, B. (2008). Operations Management (Vol. 1). Pearson Education India.