

Operations Management - Sem III (2019-21)

I) Course Content:

Semester	III Core
Subject	Operations Analytics
Course Code	MMSOC402 (RGCMS)
Credits	4
Duration	40

Prerequisites if any	Operations Management, Operations Research, Statistics for Management,
Connections with Subjects in current or Future courses	Supply Chain Management, MRPC, Materials Management

Learning Objective	
1	To understand basic aspects of analytics and evaluation
2	To learn various analytical techniques applied in complex real-life situations
3	To be able to scale up an academic model to workable practical model by carrying the process of analytical framework.

Module

Sr. No.	Content	Activity	Course Outcome
1.	Introduction Gaining data insights and Predictive Analytics; Introduction to analytics, Demand analytics-qualitative forecasting	Lecture, examples on excel, cases	MMSOC402.1
2.	Demand analytics Quantitative forecasting, Moving average, exponential smoothing, trend, regression adjusted with seasonality, double exponential smoothing, optimum values of period of MA & smoothing constant	Lecture, examples on spread sheets, cases	MMSOC402.2
3.	Measures of accuracy in forecasting In terms of MAD, MSE, MAPE & tracking signal.	Lecture, examples on spread sheets, cases	MMSOC402.3
4.	Service analytics in waiting line Single & multi-server, use of simulation and customer service efficiency, cost optimization	Lecture, examples on spread sheets, cases	MMSOC402.4
5.	Service analytics in Retail, Stocking policy and impact of stock-out, use of simulation, service efficiency, & cost optimization	Lecture, examples on spread sheets, cases	MMSOC402.5
6	Supply Chain Analytics: Supply Chain Metrics, Decision areas in SCM Procurement, Manufacturing, Distribution, Logistics	Lecture, examples on spread sheets, cases	MMSOC402.6
7	Supply Chain Analytics & Risks Risk & performance indices wrt cost, capacity, quality, logistics & distribution etc	Lecture, examples on spread sheets, cases	MMSOC402.7
8	Types of Reports: Summary Reporting, Detailed, Functional, Multi-view, Drill Down, Utility View, Process View	Lecture, examples on spread sheets, cases	MMSOC402.8
9	Performance Metrics: Inventory, Fulfilment, Alerts, and Flagging etc. Dashboard Designing, Balanced Scorecard: Kaplan and Norton Framework, Strategy Map, Scorecard Design.	Lecture, examples on spread sheets, cases	MMSOC402.9

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II} Course Outcomes

Course Code	Course Outcomes Students will be able to..	Cognition
MMSOC402.1	Understand the importance of data, insights and Importance of analytics	Understand
MMSOC402.2	Understand the importance of demand analytics	Understand
MMSOC402.3	Analyse the measures of accuracy in forecasting	Analyse
MMSOC402.4	Evaluate the Service analytics in waiting line	Evaluate
MMSOC402.5	Analyse the Service analytics in Retail	Analyse
MMSOC402.6	Evaluate the Supply Chain Analytics	Evaluate
MMSOC402.7	Evaluate the Supply Chain Analytics and associated risks	Evaluate
MMSOC402.8	Analyse the various types of Reports	Analyse
MMSOC402.9	Analyse the Performance Metrics	Analyse

Text books

Sr. No.	Books
1	Business Analytics: Practitioner's Guide Rahul Saxena and Anand Srinivasan

Reference Books

Sr. No.	Books
1.	Business Analytics- An Introduction Jay Leibowitz

Assessment	
Internal	Internal 40%
Semester end	Semester end 60%