

**INDIAN INSTITUTE OF INFORMATION TECHNOLOGY
DESIGN AND MANUFACTURING (IIITD&M) KANCHEEPURAM**

INTRODUCTION OF NEW COURSE

Course Title	OPERATIONS AND SUPPLY CHAIN MANAGEMENT	Course No				
Specialization	Mechanical Engineering	Structure (LT/PC)	3	0	0	3
Offered for	PG	Status	Core <input type="checkbox"/>	Elective <input checked="" type="checkbox"/>		
Faculty	Dr. SHAHUL HAMID KHAN	Type	New <input checked="" type="checkbox"/>	Modification <input type="checkbox"/>		
Pre-requisite		To take effect from	August 2013			
Submission date	March 2013	Date of approval by AAC				
Objectives	The course aims to provide an in-depth coverage of operations management and supply chain management. Students will be exposed to various aspects such as production planning, forecasting, regression analysis, queuing models, transportation models, topics in supply chain etc. The course would equip students with skills required for effective decision making and management.					
Contents of the course (With approximate break up of hours)	<p>INTRODUCTION Scope of operations management, strategy and productivity, productivity tools. Forecasting - Measures of forecast. Accuracy, time series, smoothing -Regression models. (7)</p> <p>PRODUCTION PLANNING AND CONTROL Types of Production Systems - Scheduling -Scheduling with resource constraints - allocation of units for a single resource - allocation of multiple resources - Materials Requirement Planning - Waiting line models - Queuing characteristics and terminology, single server and parallel server models, Introduction to discrete event simulation. (8)</p> <p>NETWORK DESIGN IN SUPPLY CHAIN Introduction to Supply chain, Role of distribution in supply chain -network design in the supply chain -models for facility location and capacity allocation - Impact of uncertainty on network design.(8)</p> <p>INVENTORY MANAGEMENT IN SUPPLY CHAIN Cycle inventory - multi-echelon inventory - safety stock in supply chain - safety level estimation, supply uncertainty, data aggregation, replenishment policies, managing safety inventory in practice - product availability - optimal level, affecting factors, supply chain contracts.(8)</p> <p>TRANSPORTATION IN SUPPLY CHAIN Design options for Transportation network, trade-offs, Risk management in Transportation. (5)</p> <p>INFORMATION SHARING IN SUPPLY CHAIN DSS for supply chain management- Value of information - Bullwhip effect, information and supply chain technology (6)</p>					
Text book	1. Simchi - Levi Davi, Kaminsky Philip and Simchi-Levi Edith, "Designing and Managing the Supply Chain", Tata McGraw -Hill Publishing Company Ltd, New Delhi, 2003.					
	<p>1. Kenneth Karel Boyerand Rohit Verma. Operations & Supply Chain Management for the 21st Century, Cengage Learning, 2009</p> <p>2. Chopra S and Meindl P, "Supply Chain Management: Strategy, Planning, and Operation", Second edition, Prentice Hall India Pvt. Ltd, New Delhi, 2005.</p>					