



INTERNATIONAL MANAGEMENT INSTITUTE, BHUBANESWAR
PROGRAMME NAME: POST GRADUATE DIPLOMA IN MANAGEMENT (PGDM-PT)
LOGISTICS MODELING
CREDIT: FULL (2 CREDITS)
SESSION DURATION: 90 MINUTES

TERM: VII
YEAR: 2019-2020
BATCH: PGDM-PT (2017)

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Course Introduction: Modeling is an extremely powerful tool for the analysis of logistics. It provides a general understanding of the principles and techniques of logistics modeling emphasizing the development and application of quantitative models. Computer-based application and simulation are the tools required by managers to analyze, interpret and solve business problems. It gives them an objective perspective on problem at hand. This course addresses the need to get acquainted with the basic concepts and areas of managerial applications of logistics, networking and multi-criteria decision making problems etc.

Learning Outcomes:

- To introduce the concepts of logistics, networking and hierarchical modeling.
- To formulate and model the multiple objectives or criteria to select the best alternatives.
- To facilitate hands-on practice of logistics modeling and simulation analysis (Excel-based).
- To understand the different types of logistics, networking and hierarchical modeling from a business application perspective.

Course Pedagogy:

The sessions will be a blend of interactive lectures and discussions. Computer-based technique like MS-Excel will be used in support of these and various case problems will be presented and discussed.

Course Readings:

Text Book(s)

1. Taylor, B.W. (2017). *Introduction to Management Science*. Pearson Education. (IMS)
2. Chopra, S., Meindl, P. and Kalra, D. V. (2010). *Supply Chain Management: Strategy, Planning and Operation*. Pearson Education. (SCM)

Reference Book(s)

1. Shapiro, J.F. (2007). *Modeling the Supply Chain*. Thomson. (MSC)

Course Evaluation Criteria:

Quiz	20%
Project/Assignment/Presentation	20%
Class Participation	20%
End-term	40%
Total	100%

Session Plan:

Session	Topic	Learning Outcomes	Reading
1-2	Introduction to course Multi-Criteria Decision-Making Modeling	LO - 1 LO - 2 LO - 4	Text book: (IMS: Ch-9, Pages 450-466) Case-1 (Modeling through Excel)
3-4	Interpretive Structural Modeling	LO - 1 LO - 4	Case-2 (Modeling through Excel)
5-6	Designing and modeling the Supply Chain Network	LO - 1 LO - 4	Text book: (SCM: Ch-4, Pages 78-112; Ch-5, Pages 124-155) Case-3
7-8	Decision Analysis (Decision Tree Modeling)	LO - 1 LO - 2 LO - 4	Text book: (IMS: Ch-12, Pages 567-601); (MSC: Ch-11, Pages 448-460) Case-4 (Textile Company Problem, pp. 598)
9-10	Queuing Analysis with Single-Server Model and Multiple-Server	LO - 1 LO - 3 LO - 4	Text book: (IMS: Ch-13, Pages 628-652) Case-5
11-12	Simulation Modeling Time Series Methods	LO - 1 LO - 3 LO - 4	Text book: (IMS: Ch-14, Pages 668-698; Ch-15, Pages 720-741); (MSC: Ch-6, Pages 233-240) Case-6

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