

Manufacturing Management

Supply chain management and facilities planning and design

IDENTIFICATION

CODE : MS2I-LOG
ECTS : 2.5

HOURS

Lectures : 0.0 h
Seminars : 34.0 h
Laboratory : 0.0 h
Project : 0.0 h
Teacher-student
contact : 34.0 h
Personal work : 32.0 h
Total : 66.0 h

ASSESSMENT METHOD

Continuous assessment

TEACHING AIDS

TEACHING LANGUAGE

French

CONTACT

M. BABOLI Armand
armand.baboli@insa-lyon.fr
Phone : 0472436201

AIMS

This teaching takes place over weeks 39 till 51

Supply chain management and organization and facilities planning and design: This course aims at providing both the fundamental concepts and the methods for organization and management of supply chains as well as the basic tools for the facility design and planning.

CONTENT

I - Supply chain design and organization: The general concept of supply chains and methods, Supply chains modelling, performance indicators of supply chains (SCOR model), Demand forecasting and aggregate planning of supply chain, Make or Buy Decisions, Facility location and capacity allocation problems, Organization and management of a distribution network: Modes of Transportation, organization of a distribution network, DRP (Distribution Resources Planning), Routing problem, Determining optimal level of product availability, Joint optimisation of transportation and inventory
II - Facility design and organisation: Facility planning process, Flow, space and activity relationship, Layout typology, Sizing problem: personnel, space and equipment requirement, Motion and Time Study, Assembly Line Balancing, Cellular manufacturing system and group technology, Computer-aided layout algorithms (SLP, CORELAP, ALDEP, MCRAFT), Warehouse design, Evaluating and selecting of the facilities plan, performance measurement

BIBLIOGRAPHY

References:

- 1- Sunil Chopra, Supply Chain Management: Strategy, Planning and Operations, [4th Edition] 2009
- 2- John J. Coyle, Supply Chain Management: A Logistics Perspective, 2008
- 3- Roberta R. Russell, Operations Management: Creating Value Along the Supply Chain, 2007
- 4- James A. Tompkins, Facilities Planning, 2010
- 5- S. Heragu, Facilities Design, Third Edition, 2008
- 6- Ralph M. Barnes, Motion and Time Study: Design and Measurement of Work, 1980
- 7- Mikell P. Groover, Work Systems: The Methods, Measurement & Management of Work, 2006

PRE-REQUISITE

Production planning and management , scheduling, optimization

INSA LYON

Campus LyonTech La Doua

20, avenue Albert Einstein - 69621 Villeurbanne cedex - France
Phone +33 [0]4 72 43 83 83 - Fax +33 [0]4 72 43 85 00

www.insa-lyon.fr