UNIVERSITÀ DI PAVIA

Anno Accademico 2019/2020

LOGISTICS MANAGEMENT

Anno immatricolazione	2018/2019
Anno offerta	2019/2020
Normativa	DM270
SSD	ING-IND/17 (IMPIANTI INDUSTRIALI MECCANICI)
Dipartimento	DIPARTIMENTO DI INGEGNERIA INDUSTRIALE E DELL'INFORMAZIONE
Corso di studio	INDUSTRIAL AUTOMATION ENGINEERING - INGEGNERIA DELL'AUTOMAZIONE INDUSTRIALE
Curriculum	Industrial Technologies and Management
Anno di corso	2°
Periodo didattico	Primo Semestre (30/09/2019 - 20/01/2020)
Crediti	6
Ore	45 ore di attività frontale
Lingua insegnamento	English
Tipo esame	SCRITTO E ORALE CONGIUNTI
Docente	FARNE' STEFANO (titolare) - 6 CFU
Prerequisiti	Basic knowledge of management, operations research, business economics
Obiettivi formativi	The course provides a comprehensive framework for the design and management of logistics processes. In particular are analyzed: customer service, techniques for inventory management, handling activities, storage and picking, transports. The course objective is to make students understand the importance of proper management of production and logistics systems for the satisfaction of customer needs and for the company's competitiveness. After an overview, the course explores the issues of basic performance, cost-relevant decisions, and analyzes the key aspects of the process of planning and control of production and logistics.

Programma e contenuti

Introduction to Supply Chain Management. Logistics as integrated view of the process: management of procurement; production; distribution; after-sales service; recovery and reuse of packaging and discontinued products (Reverse Logistics). Types and classification of production and distribution systems. The logistics system and the customer service: evolution of the concept of "customer service". The three levels of service: operational; sales support; marketing support.
Performance measurement: customer service, outside services of the distribution system, the internal performance of the production system. Quantitative indicators and their use.
The forecast of demand for products: the basic techniques of demand forecasting (moving average, exponential smoothing, Holt-Winters model).
Inventory management. Inventories in the distribution system: types of stocks (cycle, safety, transit, etc.); the basic techniques of reordering; inventory costs and stock-out. Inventory management: models with fixed point of reordering and economic lot and models to fixed period. Evaluation of safety stock. Models for products with low demand.
The integrated cycle of production management: aggregate planning; Master Production Schedule (MPS); Materials Requirements Planning (MRP); Scheduling. Just In Time systems.
Packing and handling systems and storage: needs, requirements, standards of primary packaging, secondary and tertiary. Ecological aspects. Dimensioning of load units. Functions, types, operational areas of the warehouse. Criteria for selecting and sizing of handling and storage systems. Policies of operational management of the warehouse. Modeling and quantitative methods to support the design and management.
Picking systems: Classification and description of the picking techniques. Design of picking systems. Optimization criteria relating to routes, supplying, layout and allocation of products. Order and batch picking systems.
Handling and storage systems. Transportation: Features of the primary and secondary transport. Delivery of goods. Types, costs, criteria for the choice of means of transport. Combined terrestrial shipping. Local delivery. Criteria optimization and load paths. Main internal handling and storage systems.
Major trends and innovations in the management of logistics and production systems. E-commerce

Metodi didattici

Lessons and exercises

Testi di riferimento

Lecture notes of the professor

S. Farné, Qualità Operativa. FrancoAngeli Editore

Modalità verifica apprendimento

The exam consists of a written test, divided into two sections: theory and exercises.
Closed-book, closed-notes, written exam consisting of 2 sections assessing knowledge, understanding of the course topics and ability to apply them in a problem solving context.
Each section will be independently graded: to pass the exam, it is necessary to obtain a sufficient score in both sections.
Threshold to pass is 18/30, the maximum mark is 30/30 cum laude. The final mark is obtained as the weighted mean of marks given to each section (theory and exercises, both sufficient) of the written exam.
If one section is not sufficient, it is necessary to repeat the entire exam (theory and exercises).

Altre informazioni

Obiettivi Agenda 2030 per lo sviluppo sostenibile	$lbl_legenda_sviluppo_sostenibile