

Academic Year: (2019 / 2020)

Review date: 09-05-2019

Department assigned to the subject: Mechanical Engineering Department

Coordinating teacher: PRIDA ROMERO, BERNARDO

Type: Electives ECTS Credits : 6.0

Year : 4 Semester :

OBJECTIVES

The student who pass this subject will be reach skills to:

- * Take the perspective from the artisanal production to lean enterprise.
- * Analysis of unstructured situations and decisions within the supply chain management.
- * Identify and describe business process, considering supply chain as a open socio-technical system.
- * Recognize different types of productive systems: Job shop, Flow shop and mixes. Taking special attention to layout and capacity.
- * Analyze and propose improvements in productive systems with the supply chain perspective.
- * Applying "lean" concepts and techniques in supply chain, taking account the strategic role of the human resources in the organization.
- * Linking process: Push, pull and mixes. Kanban. Leveling process
- * Recognize the inter and intra business process in the supply chain
- * Use the Competence versus cooperation concepts and their consequences in the supply chain management
- * Ability of communication and working in multidisciplinary and international groups

DESCRIPTION OF CONTENTS: PROGRAMME

1. Introduction to supply chain management . From artisans to lean enterprise
 - 1.1 From artisans to lean enterprise
 - 1.2 Human resources development: Leadership, Motivation Empowerment basis to development lean manufacturing.
 - 1.3 Supply chain management and lean manufacturing
 - 1.4 Material flow: Job shop, flow shop and mixes
- 2 Production and assembly lines
 - 2.1 Mono product lines
 - 2.2 5S/SMED/TPM
 - 2.3 Multi product lines
- 3 Cellular manufacturing. Batch versus "one piece flow"
 - 3.1 Design of cells
 - 3.2 Implementation
- 4 Linking process. Push pull mixes
 - 4.1 Added value
 - 4.2 kanban and conwip systems,
- 5 Business process design, improvement and redesign in the supply chain.
 - 5.1 Continuous improvement and innovation, kaizen, kpi's
 - 5.2 6 sigma
 - 5.3 Value and costs in the process
- 6 Variability management
 - 6.1 Demand leveling
 - 6.2 Bullwhip effect
- 7 Processes between enterprises. From purchasing to supply management
 - 7.1 Competence and cooperation in the supply chain
 - 7.2 Logistics in supply chain

LEARNING ACTIVITIES AND METHODOLOGY

Lectures, exercises, practical sessions in laboratory with cases and assignments to be carried out by the students and discussed in the sessions, readings assigned by the instructor.

The students must assist to sessions of theory and practice and also must take practices with

- * Case analysis
- * Working in groups

ASSESSMENT SYSTEM

THE CONTINUOUS ASSESMENT (40%)

FINAL ASSESMENT (60%) (MIN. 4 POINTS TO PASS THE SUBJECT)

% end-of-term-examination:	60
% of continuous assessment (assignments, laboratory, practicals...):	40

BASIC BIBLIOGRAPHY

- Ponce, E. Prida, B Logística de Aprovisionamientos para la Integración de la Cadena de Suministros, Prentice Hall, 2006
- Sistema de Producción Toyota Monden, Y, Industrial Engineering , 1987
- Woomack, Jones Lean thinking, Gestión 2000, 2003