NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

| COURSE OUTLINE TEMPLATE | | | |
|---|---|---|---|
| Course Title | MANUFACTURING MANAGEMENT | | |
| Course Code | PR 625 | No. of Credits | 3 |
| Department | Production Engineering | Faculty | Dr.S.Prasanna Venkatesan |
| Pre-requisites Course Code | -- | | |
| Course Coordinator(s) (if, applicable) | -- | | |
| Other Course Teacher(s)/Tutor(s) E-mail | | Telephone No. | |
| Course Type | ☐ Core course | ☑ Elective course | |

## COURSE OVERVIEW

**Manufacturing Management** deals with the decision making approaches to handle the strategic, tactical and operational issues in a manufacturing or a service system. The objective is to produce and deliver the goods/services according to specifications, in the right amount, right time and at a right cost with a minimum environmental impact.

## COURSE OBJECTIVES

1. To enable the students to understand the role of manufacturing management in organizational decision making.

2. To study the strategic, tactical and operational decision making tools in order to model a manufacturing or a service system.

3. To understand the application of manufacturing management policies and techniques to the manufacturing and service organizations.

| Course Outcomes | Aligned Programme Outcomes (PO) |
|---|---|
| 1. Understand the role of manufacturing management in organizational decision making.<br>2. Build and analyze quantitative models for organizational decision making<br>3. Apply tools for modeling of complex systems | PO 3, PO 5 and PO 7 |

| COURSE TEACHING AND LEARNING ACTIVITIES | | | |
|---|---|---|---|
| **S.No.** | **Week** | **Topic** | **Mode of Delivery** |
| 1 | 1 | Nature of production- Strategic, Tactical and Operational decisions. | Chalk and talk |
| | 2 | General discrete location-allocation problems -features and formulation | Chalk and talk |
| | 3 | Facility location models | Chalk and talk |
| | 4 | Supply chain management and SCM, Flow in supply chains, Key issues in supply chain management, | Chalk and talk |
| | 5 | Supply chain facility location | Chalk and talk |
| 2 | **Test I** | | |
| | 6 | Aggregate production planning - Heuristics | Chalk and talk |
| | 7 | Linear models and transportation models | Chalk and talk |
| | 8 | Inventory management- EOQ models-models with price breaks | Chalk and talk |
| | 9 | Operations scheduling, CDS and Palmer heuristics- Assembly Line Balancing | Chalk and talk |
| | 10 | Solving nodels using software like GAMS, WinQSB | Tutorial/lab |
| 3 | **Test II** | | |
| 4 | 11 | Project Scheduling, MRP, lot sizing in MRP, ERP | PPT |
| 5 | 12 | Quality management | PPT |
| 6 | 13 | Assessment thru seminars | Seminar presentation |
| 7 | **End semester** | | |

**Mode of Assessment**

| S.No. | Mode of Assessment | Week/Date | Duration | % Weightage |
|---|---|---|---|---|
| 1 | Test 1 | End of 5 week | 1hr | 20 |
| 2 | Test 1 | End of 10 week | 1hr | 20 |
| 3 | Seminar | End of week 12 | 10 min./student | 10 |
| 4 | End semester | End of week 13 | 3hr | 50 |

**ESSENTIAL READINGS : Textbooks, reference books Website addresses, journals, etc**

*Buffa., "Modern Production Management", John Welley, 1983.*
*Douglus C.Montgomery, Introduction to statistical quality control, 2nd Edition , Jhon Wiley & sons, 1991*
*Hax and Candea., "Production and Inventory Management", Prentice Hall, 1984.*
*Sunil Chopra, Peter Meindl, Supply Chain Management: Strategy, Planning and Operations-, Prentice Hall India, 3rd ed. (2007)*

**http://nptel.ac.in/courses/110106045/**

**COURSE EXIT SURVEY (mention the ways in which the feedback about the course is assessed and indicate the attainment also)**

Course Exit survey will be collected at the end of the semester before the start of semester examination through online. Students can log in their MIS account to give the feedback. Mid-semester anonymous feedback shall be collected to improve the teaching-learning process. Apart from this, students can share feedback during class committee meetings.

**COURSE POLICY (including plagiarism, academic honesty, attendance, etc.)**

Attending classes regularly and continuously is required for the students to understand the concepts.

Participation in the discussions is mandatory during the tutorial classes.

If any student is not able to attend any of the continuous assessments (1 and 2) due to genuine reason, student is permitted to attend a retest with 20% weightage. A candidate may appear for retest only once. Attending the end semester is a must.

**ADDITIONAL COURSE INFORMATION**

**eg.:** The Course faculty is available for consultation based on prior appointment to his email at - prasanna@nitt.edu

**FOR SENATE'S CONSIDERATION**

**Course Faculty** _____ **CC-Chairperson** _____ **HOD** _____