

## **OMT-456: Production & Operational Management**

**Credit Hours:** 3-0

**Pre-requisites:** None

### **Course Description**

This course reviews the management of operations in manufacturing, services and merchandising organizations. The course includes a review of the activities and responsibilities of operations management, decision-making, capacity planning, aggregate planning, forecasting, inventory management, materials requirements planning (MRP), project management and quality control.

### **Course Objectives**

- Demonstrate awareness and an appreciation of the importance of the operations to the sustainability of an enterprise.
- Demonstrate a basic understanding of project management and operations strategy.
- Explain the importance of quality control and techniques to measure quality.
- Demonstrate the ability to apply some mathematical forecasting techniques.
- Demonstrate an understanding of the principles underlying materials requirements planning.
- Demonstrate an understanding of the concepts of operations scheduling.

### **Course Contents**

- i. Introduction to Operations Management; Productivity, Plant layout; Product and Process layout analysis and comparison; Material handling considerations in layout.
- ii. Production planning methods, material requirement planning, material resource planning.
- iii. Capacity planning and control; Production control systems; Job shop scheduling
- iv. Quality control; Production control charts; Scheduling techniques; Purchasing and Procurement; Total Quality Management (TQM)
- v. Inventory control; EOQ/ EPQ models.
- vi. Time and Motion study.
- vii. Organizational structure, Human resource management.
- viii. Project management principles, PERT/ CPM
- ix. ISO standards, labor and engineering laws.

x. Labor problems; Labour organizations; Prevention and settlement of disputes.

**Course Outcomes**

After taking this course, students should have knowledge regarding principles and techniques used in different chemical plants.