

Production and Operations Management

Overview

In today's competitive and global environment, production and operations management is a powerful tool for gaining competitive advantage and achieving business excellence. The accelerating pace of technological advances, shorter product life cycles, ever-increasing demands from customers and globalization of markets have posed unique challenges to the practicing managers, researchers and students to address these needs. These trends call for acquiring new and additional skills and knowledge in the field of production and operations management and hence the purpose of introducing such a course

Academicians with proven knowledge, industrial experience, and demonstrable ability in teaching, consultancy, research, and training in the field of production and operations management (POM) will conduct sessions and case-based real-life problems solving exercises in the training course. Lectures will be delivered by internationally-renowned faculties from India and abroad.

Objectives

- Exposing participants to the fundamentals of production and operations management.
- Building in the participants' knowledge and confidence in the varieties of the state-of-the-art production and operations management tools, techniques and methodologies.
- Providing exposure to practical problems and their solutions through case studies and live projects in the field of production and operations management.
- Reducing the gap between demand and supply of trained personnel in the field of production and operations management.

Module	Production and Operation Management: May 23 – June 3, 2016. Number of participants for the course will be limited to fifty.
Who Should Attend	<ul style="list-style-type: none"> ▪ Undergraduate, Postgraduate and PhD students in Industrial Engineering, Engineering and Business Management and allied disciplines ▪ Middle level and senior managers in manufacturing and service organizations requiring an in-depth understanding of POM practices and implementation principles for enhancing functional and operational performance and organizational competitiveness ▪ Executives and administrative officials from Government/Public sectors and research organizations
Fees	<p>The participation fee for taking the course is as follows:</p> <p>Participants from abroad : US \$500 Industry/ Research Organizations: INR 30,000 Academic Institutions: INR 10,000</p> <p>The participation fee includes instructional lecture materials, computer use for tutorials and assignments, use charges and 24-hr internet facility. The participants will be provided with accommodation on payment basis.</p>

The Faculty



Professor Jyoti Mukherjee is a Professor at the Department of Aerospace and Mechanical Engineering, University of Arizona at Tucson, USA. His research interests include Operations Management, Product and Project Development and Management, Automotive Product Design, ERP Development, Statistical Tool Deployment for System Architecture Design and Optimization.



Professor Pradip Kumar Ray is Professor at the Department of Industrial and Systems Engineering of Indian Institute of Technology (IIT), Kharagpur, India. His research interests include Productivity Management/Modelling and Analysis of Manufacturing and Service Organizations, Quality Design and Control, Total Quality Management, Process Optimization, Ergonomics/Human Factors Engineering, Safety Engineering, Modelling and Analysis Of Healthcare Management Systems, and Industrial/Production System Sustainability.



Professor Kunal Kanti Ghosh is presently a Visiting Professor at Vinod Gupta School of Management, Indian Institute of Technology (IIT), Kharagpur, India. His research interests include New Product Development, Off-Shore Outsourcing, Enterprise System Applications and Innovation Management.

Course Coordinators

Prof. Kunal Kanti Ghosh

Phone: 03222- 281832

E-mail: kunal@iem.iitkgp.ernet.in

Prof. Pradip Kumar Ray

Phone: 03222- 283742

E-mail: pkv@vgsom.iitkgp.ernet.in

<http://www.gjan.iitkgp.ac.in/>

Course Details

The **main topics** that will be covered in the course are as follows:

- **Operations as a Competitive Weapon:** productivity and performance management systems, challenges and strategies, emerging trends.
- **Process Management:** types of operations systems, vertical integration, computer integrated manufacturing and flexible manufacturing/production system - concepts and modelling.
- **Capacity Planning for POM:** different types of models and their applications.
- **Supply Chain Management:** forecasting tools and techniques for operations management, inventory management
- **Enterprise Systems Planning:** MRP, MRP-II, DRP, ERP, SRM and CRM
- **Lean Engineering and Management Practices for Manufacturing and Service operations:** models, methodologies and applications, Toyota production system, Theory of Constraints
- **Integrated Production/Operations Management Framework:** Modelling and Applications

Lecture Schedule

The detailed **lecture schedule** is as follows:

Day-1 (May 23, 2016): Operations management as a competitive weapon in manufacturing and service organizations

Lecture-1: Productivity and performance management systems

Lecture-2: Issues, challenges and strategies for POM, emerging trends

Day-2 (May 24, 2016): Process management

Lecture-3: Types of processes and operations systems, concept of vertical integration

Lecture-4: Concepts of Computer-Integrated Manufacturing (CIM) and Flexible Manufacturing Systems (FMS)

Day-3 (May 25, 2016): Capacity planning for POM

Lecture-5: Different types of capacity planning models and their applications

Lecture-6: Case study presentation

Day-4 (May 26, 2016): Important supply chain management issues

Lecture-7: Forecasting tools and techniques for POM

Lecture-8: Applications of forecasting tools and techniques

Day-5 (May 27, 2016): Important supply chain management issues

Lecture-9: Inventory management-I

Lecture-10: Inventory management-II

Day-6 (May 30, 2016): Enterprise systems planning

Lecture-11: Material Requirements Planning (MRP) and Manufacturing Resource Planning (MRP-II): concepts and modelling

Lecture-12: Case applications of MRP and MRP-II

Day-7 (May 31, 2016): Enterprise systems planning

Lecture-13: Concepts and modelling of DRP, ERP, SRM and CRM

Lecture-14: Case applications of DRP, ERP, SRM and CRM

Day-8 (June 1, 2016): Lean engineering and management practices for manufacturing and service organizations

Lecture-15: Models and methodologies

Lecture-16: Case applications

Day-9 (June 2, 2016): Lean engineering and management practices for manufacturing and service organizations

Lecture-17: Toyota Production System (TPS): concepts and modelling

Lecture-18: Theory of Constraints (TOC): concepts and modelling

Day-10 (June 3, 2016): Integrated POM framework

Lecture-19: Details of framework

Lecture-20: Implementation issues and modelling in framework

Teaching Methodology

Lecture sessions, discussions, exercises, case studies