

Indian Institute of Technology Kanpur

Course Proposal Indian Technical and Economic Cooperation Programme

Title of the Course/Workshop: **Industrial Economics and Engineering Management**

Item	Details
<i>Title of the Course</i>	Industrial Economics and Engineering Management
<i>Course Coordinators</i>	<ul style="list-style-type: none"> • Dr. Faiz Hamid, Department of Industrial & Management Engineering (Correspondence: fhamid@iitk.ac.in) • Dr. Deep Mukherjee, Department of Economic Sciences
<i>Duration</i>	ONE week
<i>Eligibility Criteria (basic expected background)</i>	Bachelor's degree in Engineering, Economics, Management with exposure to Mathematics and Statistics
<i>Target group</i>	Teachers of Economics/Engineering/Management disciplines, Research scholars, Business analysts from corporate sector
<i>Tentative dates for the proposed event</i>	Dec. 04 – Dec. 10, 2023
<i>No. of days and hours of training</i>	Days = 06, Hours = 36 (approximate)
<i>Objectives</i>	The course will comprise of essential industrial economics and operations research models for managerial/business decision making. Participants will be exposed to quantitative analysis of industrial and business problems. Each module will be integrated with hands-on computer-based exercises to educate the participants about real-world applications of analytical models. The course would be designed for teachers, researchers, and industry personnel who would like to upgrade their analytical toolset for enhanced industry/business data analysis.
<i>Tentative list of topics to be covered</i>	<p>A. Industrial Economics and Finance</p> <ul style="list-style-type: none"> • Estimation of market demand, production, and cost functions • Market concentration, Pricing methods • Project appraisal <p>B. Operations Research in Production and Inventory Control</p> <ul style="list-style-type: none"> • Linear Programming and Integer Programming • Solving LP and IP using Excel and Python • Inventory Management • Lean Operations • Sustainability in Supply Chain <p>C. Operations Research in Industrial Location-Allocation Analysis</p> <ul style="list-style-type: none"> • Network and Transportation Problems • Fixed Charge Problems, Facility Location Problems <p>D. Benchmarking with Data Envelopment Analysis</p> <ul style="list-style-type: none"> • Relationship between productivity and efficiency • Constant returns to scale and Variable returns to scale DEA models • Input- and output-oriented technical efficiency • Scale efficiency, Cost efficiency
<i>Good governance Scheme of GOI being covered</i>	<p>Highlight from below list of GOI schemes:</p> <ul style="list-style-type: none"> • Pradhan Mantri Kaushal Vikas Yojana (PMKVY) • Pradhan Mantri Mudra Yojana (PMMY) • Entrepreneurship and Skill Development Programme (ESDP) • Production Linked Incentive scheme (PLIS)


Prof. Dharendra S. Katti
 Dean
 Office of International Relations
 Indian Institute of Technology, Kanpur-208016