भारतीय प्रौद्योगिकी संस्थान दिल्ली
Indian Institute of Technology Delhi

jaro education

PG Certificate Level Programme on Operations Management & Analytics

8 Months | Live Online | Starts on 02 July 2023 (Sunday)

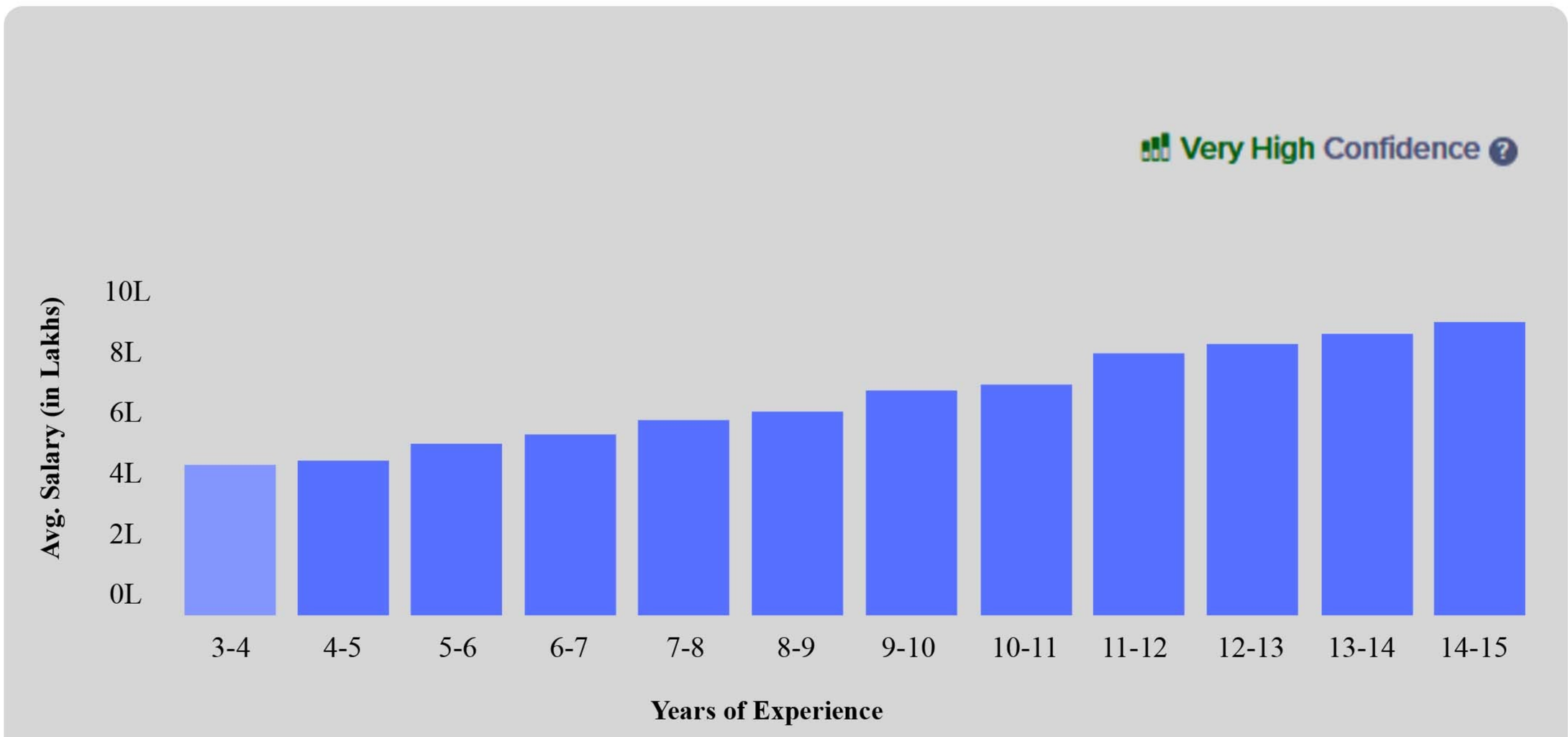
Programme offered by Continuing Education Programme (CEP), IIT Delhi

Operational Management and Analytics:
Trends to Keep on Your Radar

> The Operational Analytics Market size was valued at USD 128.77 Billion in 2021 and is projected to reach USD 174.88 Billion by 2030, growing at a CAGR of 3.85% from 2023 to 2030.
>
> *Verified Market Research

Operational management and analytics are crucial aspects of any successful business. As companies increasingly rely on data-driven decision-making, it is essential to stay on top of the latest trends in operational management and analytics. One trend to keep on your radar is the integration of artificial intelligence and machine learning into operational management systems. These technologies can help companies automate tasks, optimize processes, and identify new opportunities for growth. Another important trend is the growing importance of data privacy and security. With increasing data breaches and cyber threats, companies need to ensure that their analytics and operational management systems are secure and compliant with regulations. Finally, there is a growing focus on sustainability and environmental impact, and operational management systems and analytics can help companies measure and reduce their carbon footprint. By staying abreast of these trends, companies can make informed decisions, remain competitive, and drive success in the years to come.

Projected Average Annual Salary



Operations Manager salary in India with less than 3 years of experience to 17 years ranges from INR 2.8 Lakhs to INR 19 Lakhs with an average with an average annual salary of INR 7 Lakhs based on INR 57.9k latest salaries.

*AMBITION BOX, 2022

Overview

The aim of this interdisciplinary programme is to familiarize participants, including decision-makers from both operations and non-operations backgrounds, with the fundamentals of operations management and analytics. Business school case studies will be employed as part of the pedagogical approach, combining live lectures with self-paced learning modules. The programme intends to equip learners with the ability to utilize operations management principles and analytics concepts effectively. It will provide new managers with an opportunity to establish a solid foundation in operations management and use data analysis to gain insights and enhance processes.

Seasoned managers can gain fresh insights into their company's data and make more informed decisions for their organizations. The Indian Institute of Technology Delhi is offering this online certificate programme through its Continuing Education Programme (CEP) to fulfill its vision of being a valuable resource for industry and society. The programme will develop human potential to the fullest extent, allowing intellectually capable and imaginatively gifted leaders to emerge in various professions.

Programme Highlights

Receive a "PG level Certificate Programme in Operations Management and Analytics" from IIT Delhi

Experience high-impact live online learning

Explore real-world case studies/caselets

Gain industry-oriented insights from eminent IIT Delhi faculty members

Peer-to-peer learning and expand your professional network

Learn the role of Analytics in Operations Management besides core Industry Operations.

Eight modules on Operations Management and Three modules on Analytics

Who should attend this programme?

- New Managers in an operations role, (Core Operations Project Management, Business Excellence, or Program Management) who need to understand concepts of fundamental operations, capacity planning, workflows, error reduction, etc.

- Mid-Senior Level Managers who want to revisit concepts.

- Executives from core operations roles (Manufacturing, Quality and Excellence, etc.) who want to optimize costs/quality/efficiency/flexibility of business operations, Fresh Graduates who want to pursue a course in core operations.

- Entrepreneurs who enjoy solving problems and driving better management practices in their organizations.

Programme Content

1 Foundation to Operations Management Analytics (1 Week, 2 sessions)

- Introduction to Concepts, Tools, Techniques, and Analytics
- Traditional and Advanced Production Systems
- Need for Product Redesign and Development

2 Production and Capacity Planning (2 Weeks, 4 sessions)

- Chase and Production Level Strategy
- Mixed Strategy
- Capacity Management (CPOF and Capacity Bill, Resource Profile)

3 Maintenance and Queue Management (2 Weeks, 4 sessions)

- Preventive and proactive Maintenance Policy
- Queue Planning (M/M/1, M/M/S, M/D/1 Models for Jobs in Queue Management)

Evaluation and Doubt Clearance - 6th Week

4 Quality and Six Sigma in Operations (2 Weeks, 3 sessions)

- Six Sigma Process in Operations
- Quality Control Charts (X and R-Charts, P & NP Charts)

5 Inventory Management (2 Weeks, 3 sessions)

- Types of Inventory Costs
- EOQ/POQ/PPB Models
- Multi-criteria ABC Analysis

6 Materials Resource Planning (2 Weeks, 4 sessions)

- MRP Construction
- MRP Nervousness

This module will provide insights to construct MRP tables for dynamic/fluctuating product demand. The MRP table provides time scheduling information about when and how much the material needs to procure (order) to meet the market demand of the final product. The MRP table will integrate the inventory models discussed in Model VII (Inventory Management) to optimize the ordering policy. Finally, the MRP table would help inventory managers to procure inventory at the right time in the right quantity at minimum inventory procurement cost.

Evaluation and Doubt Clearance - 13th Week

7 Forecasting and Demand Management (2 Weeks, 4 sessions)

- Time Series Models (Exponential, Adjusted Exponential, Winter-holt Model)
- Regression (Linear Trend Model)

8 Predictive Analytics (2 Weeks, 4 sessions)

- Demand Forecasting
- Business Simulation in Operations

This module will provide the use of various forecasting models discussed in Module II (Forecasting and Demand Management) using R and Excel for past sales data. This will help the sales managers/decision makers to estimate the best demand forecast with minimum forecast error, keeping the highest level of forecasting accuracy. At the end, this module will enable the participants in the application of R and Excel using various forecasting models to predict future demand.

9 Descriptive Analytics (3 Weeks, 5 sessions)

- Vendors Selection and Evaluation
- Risk Mitigation in Operations

This module will provide the application of various MCDM Multi-criteria Decision Making tools and techniques for vendor/machine/parts/product design selection for medium and long term decisions for industries. In addition, the participants will also learn risk mitigation in the supply chain using MCDM. Some of the MCDM techniques covered here are ISM, AHP, and TOPSIS. Finally, this module will help managers/decision makers in short, medium and long term decisions, such as which vendor(s) to be selected for medium/long term duration, and similarly how to mitigate operational risks in the supply chain.

Evaluation and Doubt Clearance - 20th Week

10 Facility Planning and Project Management (2 Weeks, 4 sessions)

- Product, Process, Fixed and Cellular Layout
- CPM and PERT Analysis of Project

11 Prescriptive Analytics (3 Weeks, 5 sessions)

- Production Management
- Facility Layout Planning

This module will provide the learning on linear programming models for optimal utilization of resources in single and multiple period production planning. It will also cover the impact of market fluctuation on the production cost and its profit. It will also provide the application of linear models on the optimal design of manufacturing layout to minimize material handling cost, which in long run helps in minimizing the manufacturing cost. Finally, the module helps operations managers to make use of this analytics in layout and production planning.

Evaluation and Doubt Clearance - 25th Week

Note: This is an indicative list of course topics and is subject to change as per IIT Delhi's discretion.

Pedagogy

Assignment & Projects

Case based discussion

Tools & Techniques Covered:

Application of Excel Solver

LINGO and R Studio package under the Analytics module

Programme Details

Duration	: 8 months
Delivery	: Live Online
	: Session Timings: Sunday 10.00 am to 1.00 pm
Schedule	: Commencement Date: 2nd July 2023 (Sunday)
	: Application Closure Date: 30th April 2023
Eligibility	: Graduates & Diploma holders (10+2+3) are acceptable
Screening & Selection	: Screening and selection will be done by IIT Delhi

Programme Fee Structure & Instalment Pattern

Fee Structure	
Particulars	**Amount**
Programme Fee	INR 1,25,000/- + GST

Instalment Pattern	
Particulars	**Instalment Amount**
Instalment 1	INR 60,000/- + GST
Instalment 2	INR 50,000/- + GST

- Payment of fees should be submitted in the IIT Delhi CEP account only and the receipt will be issued by IIT Delhi CEP account for your records.

- Loan Options is a service offered by Jaro Education and IIT-Delhi is not responsible for the same.

Programme Certification

Programme Code: .....

Indian Institute of Technology Delhi

HAUZ KHAS, NEW DELHI- 110016

Department/Centre/School of .....

Continuing Education Programme

On

Title of the Programme

This is to certify that

Mr./Ms. **Name Of The Participant**

has successfully completed the online certificate programme on **"Title of the Programme"** held from ..... to ..... by the Indian Institute of Technology Delhi.

Prof.
Programme Coordinator

Prof.
Head of the Department

Prof.
Head/Associate Head, QIP/CEP

An initiative under eVIDYA@IITD (ई-विद्या@IITD)

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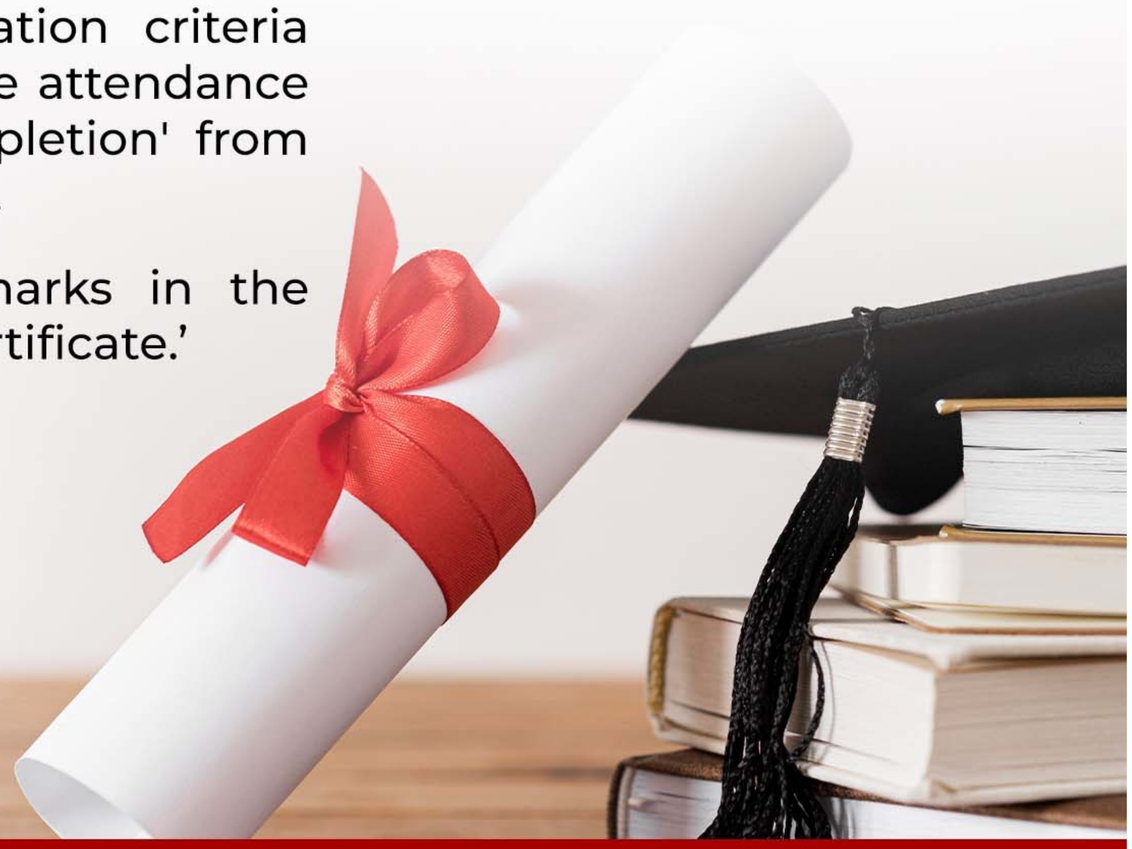
An initiative under eVIDYA@IITD (ई-विद्या@IITD)

- Participants who successfully meet the evaluation criteria (Aggregate Marks > 50%) and satisfy the requisite attendance criteria will be awarded a 'Certification of Completion' from Continuing Education Programme (CEP), IIT Delhi.
- Participants who are unable to score 50% marks in the evaluation will be eligible for the 'Participation Certificate.'
- Only e-certificates will be issued by CEP, IIT Delhi.



Programme Co-ordinator

Dr. Surya Prakash Singh

Professor
Department of Management Studies
Indian Institute of Technology, Delhi

Prof. Surya P. Singh is a Dhanajaya Chair Professor and Chairperson, Operations & Supply Chain Group at Department of Management Studies, IIT Delhi.

In addition, Prof. Singh was also a Visiting Fellow at Newcastle Business School, Newcastle University, UK and Center for Production & Industrial Engineering, Aalborg University, Denmark. He is also a coordinator of "Center of Excellence on Data & Decision Science" funded by the Ministry of Tribal Affairs, Govt. of India.

Prof. Singh holds PhD from Industrial & Management Engineering, IIT Kanpur. Prof. Singh is a Post-Doctoral Fellow from National University of Singapore, Singapore and MIT USA Alliance. After working in industry for a brief period, he joined IIT Delhi. He is also associated in various capacities with several Indian B-Schools such as XIMB, MDI Gurgaon, IIM Rohtak, IIM Sirmaur, IIM Kashipur, IIM Ranchi, IIM Amritsar, BIMTECH, Shiv Nadar University, SCMHRD Pune, etc.

Prof. Singh managed several Projects, Consultancies, and MDPs for IOCL, Airport Authority of India, NBCC New Delhi, UP Sugar Mills Ltd. NHAI Ltd. Ministry of Tribal Affairs, PWD MP Govt., CCRAS-Ministry of Ayush, RVNL New Delhi, UKIERI, DST, and NTPC.

Prof. Singh mainly works in the area of Operations Management, Operations Research, Applied Operations Research, Operations & Supply Chain Analytics, Manufacturing Strategy, Industry 4.0, Blockchain Technology in Operations & Supply Chain. Very recently, one of his work on Industry 4.0 analytics came in the limelight and was covered by IIT Delhi and national news and supervised 14 PhDs. Prof. Singh authored a book on Production & Operations Management published by Vikas Publishing House, and Area/Associate Editor at Operations Management Research journal published by Springer Nature.

About IIT Delhi

The Indian Institute of Technology Delhi (IIT Delhi) is one of the 5 initial IITs established for training, research and development in science, engineering and technology in India. Established as College of Engineering in 1961, the Institute was later declared as an Institution of National Importance under the “Institutes of Technology (Amendment) Act, 1963” and was renamed as “Indian Institute of Technology Delhi”. It was then accorded the status of a Deemed University with powers to decide its own academic policy, to conduct its own examinations, and to award its own degrees.

Since its inception, over 48000 students have graduated from IIT Delhi in various disciplines, including Engineering, Physical Sciences, Management, Humanities and Social Sciences. Of these, nearly 5070 received PhD degrees. The rest obtained a Master’s Degree in Engineering, Sciences and Business Administration. These alumni today work as scientists, technologists, business managers and entrepreneurs. There are several alumni who have moved away from their original disciplines and have taken to administrative services, active politics, or are with NGOs. In doing so, they have significantly contributed to the building of this nation and to industrialization around the world.

3rd Rank
as per ARIIA Ranking (2021)

2nd Rank
as per NIRF India Management Rankings (2022)

IITD 3rd Rank
QS World University Ranking 2023 in India

About Continuing Education Programme (CEP)

Executive education is a vital need for the companies to build a culture that promotes newer technologies and solutions and builds a workforce that stays abreast of the rapidly transforming needs to the technological, business and regulatory landscape. Committed to the cause of making quality education accessible to all, IIT Delhi has launched Online Certificate Programmes under eVIDYA@IITD (ई-विद्या@IITD): enabling Virtual & Interactive-learning for Driving Youth Advancement@IITD for Indian as well as international participants. These outreach programmes offered by the Indian Institute of Technology Delhi (IIT Delhi) are designed to cater to the training and development needs of various organisations, industries, society and individual participants at national and international level with a vision to empower thousands of young learners by imparting high-quality Online Certificate Programmes in cutting-edge areas for their career advancement in different domains of engineering, technology, science, humanities and management.

Programme offered by Continuing Education Programme (CEP), IIT Delhi