



भारतीय प्रौद्योगिकी संस्थान दिल्ली
Indian Institute of Technology Delhi



CERTIFICATE PROGRAMME IN **NEW PRODUCT DEVELOPMENT AND MANAGEMENT**

Starts December 15, 2021 | Live Online Sessions

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

OVERVIEW

Product managers wear many hats. They devise disruptive business models, bring together cross-functional teams, and focus on customer-centric engineering. They are the mini-CEOs who take projects from development and execution to launch and beyond. It's no surprise then, that before becoming the CEOs of Google, Microsoft, and Yahoo, Sundar Pichai, Satya Nadella, and Marissa Mayer were product managers.

But organisations are now facing a product management talent dilemma. With the baseline of product-management skills set high, it's not just enough to think about product management but also develop the mindset, agility and innovation for product development.

Enrolling in **IIT Delhi's New Product Development and Management programme** will teach you not just product deployment, sales, marketing and commercialisation but also give you hands-on experience in state-of-the-art product conception, design and prototyping for both engineering and digital products. Study customer discovery, functional and visual concepts, design optimisation, and creation of the minimum viable product (MVP) under a renowned faculty of technologists, management gurus, and startup leaders known to train the country's best product-thinkers and managers.

WHO IS THIS PROGRAMME FOR?

- **Current and aspiring product management professionals** looking to gain a detailed understanding of developing and managing products, and disruptive business models & innovation techniques.
- **Entrepreneurs** keen on launching product-based Startups, and developing capabilities to create disruptive business models and nurture products.
- **Professionals** looking to create and promote products & services across business development, sales & marketing and UX/ UI teams.
- **Graduate students** seeking Product Development & Product Management roles.

PROGRAMME HIGHLIGHTS

Practical and hands-on learning experience with **real-world case studies**, tutorials and assignments



Designed to benefit candidates from **technical and non-technical** backgrounds



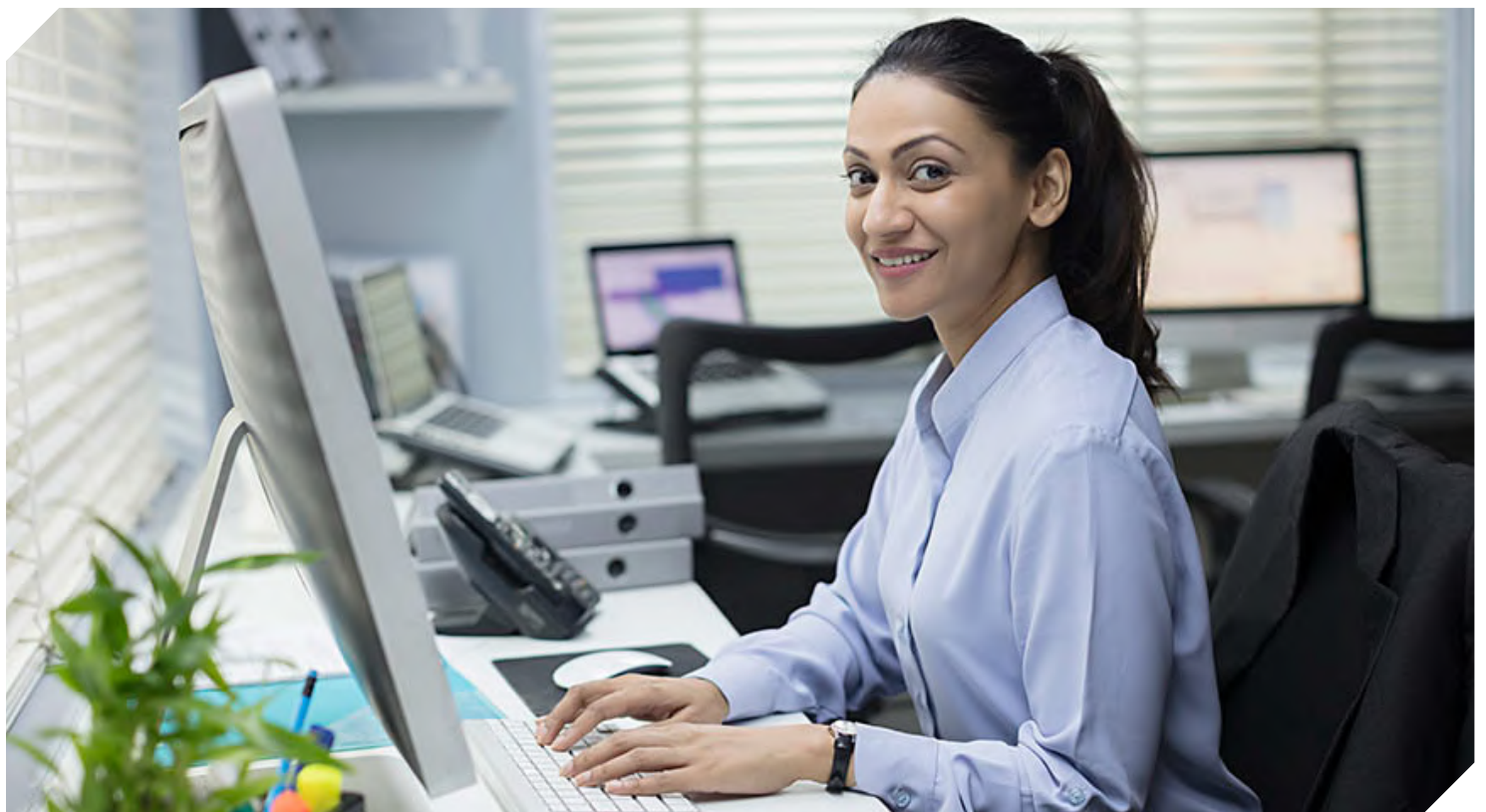
Train under IIT Delhi's renowned **faculty and industry experts** via live online sessions



Learn via Capstone Project on development and launching of **Engineering and Digital Products**



Get Certificate of Completion from the prestigious **Indian Institute of Technology, Delhi**



PROGRAMME MODULES

Module 1: Product Conception

- Product Basics
- Consumer problems and unmet need
- Empathy, Personas, User Stories
- Identifying New Product Opportunities using Data
- Market Research for New Product Development
- Idea Generation & Need Analysis
- Concept testing using Surveys-Customer Discovery
- Product potentiality and Conjoint analysis
- Design Thinking for B2C, B2B Products and Services
- Competition Analysis and Product Market Fit

Module 3: Prototyping

- What is Minimum Viable Products (MVP)?
- Types of MVP
- Hypothesis Testing | A/B
- Prototype development for Digital Products
- Wireframing
- 3D Printing and 3D Cutting
- Material Selection for Engineering Product Prototyping
- Prototype Functionalisation using Electronics and Instrumentation
- Role of Robotics and Automation in Prototyping
- Usability and Beta Testing

Module 2: Product Design

- Product Design Process - 7 Stages
- Product specifications and features
- Visual Design Elements
- Tools for Design of Digital Products
- User experience (UX) design
- Introduction to Software Tools used to design Engineering Products
- Quality Function Deployment
- Value Engineering Methodology
- Iterative design optimisation
- Design for Manufacturing

Module 4: Product Deployment

- Production planning and control
- Material handling
- In-house Budgeting and Outsourcing
- Quality Assurance Protocols
- Principles of Lean: Lean Manufacturing and Management
- Regulations and Standards: ISO
- Intellectual Property and Trademarks
- Building Markets and Creating Demand for New Products
- Services, Simulated Test Marketing, and Launching of New Products

Module 5: Sales and Marketing

- Brand Awareness, Consumer Brand Knowledge
- Product-line Decisions (extension, reduction), Product Category expansion
- Pricing Model and Strategy
- Product Costing
- Segmentation | Target | Positioning
- Sales Forecasting
- Distribution Channels
- Lead Generation-Role of Contacts and social media
- Customer Acquisition
- Customer Retention

Module 7: Commercialisation and Start-up

- Introduction to Business Model Canvas
- Funding Requirement and Avenues
- Bootstrapping
- Team Building and Collaborations
- Customers and End Users
- Market Competition and Creating Barriers to Entry
- Deployment and Distribution Strategy
- Launching of Start-up: Rules and Steps
- Social media, Websites, and Digital Marketing
- Scale-up Model and Sustainable Growth Plan

Module 6: Product Lifecycle Management

- Organisation for Product Management
- Marketing Manager-Product Manager-Brand Manager Concept
- Approaches and Organisational role
- Product Manager-Functions and Tasks-Tools and Techniques
- The Product in Corporate Life, Corporate and Product Objective
- Product Strategy and Policy
- Optimum Product Pattern/Line Range
- Challenge Of Change-Opportunity and Risk-Product Innovation, Modification, Addition and Elimination
- Product Proposals-Sources, Generation, Processing and Selection
- Contemporary Challenges and Opportunities in Product Management

Note: Modules/ topics are indicative only, and the suggested time and sequence may be dropped/ modified/ adapted to fit the total programme hours.

CAPSTONE PROJECT

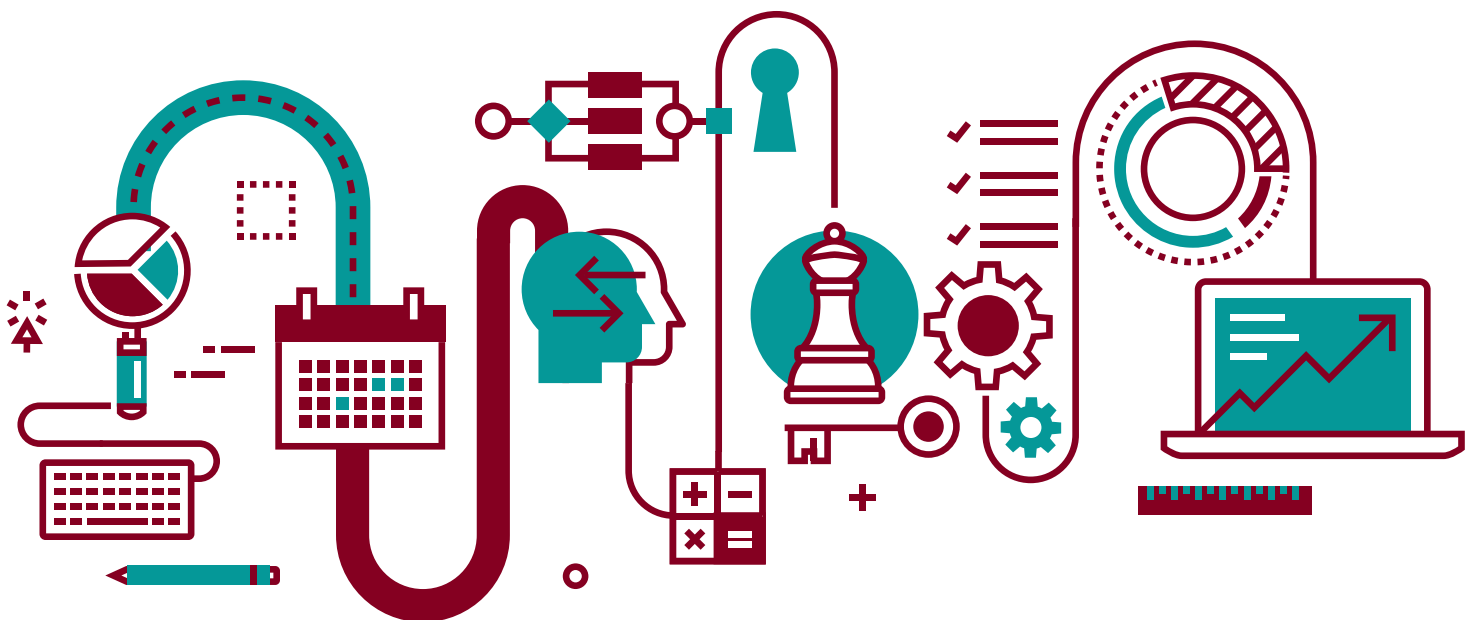
Bootstrapped development of 1 Product per team (3-5 students), with tested deployment, marketing, management, and go-to-market commercialisation plan.

1. Customer Discovery

The participants will be grouped in teams of 3-5 members. They will focus on a specific customer problem (need) and respective product, and fill out the business model canvas, a gold standard in the industry for the conception of a commercial product. The teams will conduct weekly customer interviews, and answer key questions such as who are the target customers, what is the market, through which channels the customers can be reached, how to grow the customer base, what is the revenue model, what activities and resources the value proposition requires, who are the key partners, and what are the significant costs in the business model. The faculty will evaluate the business model, and suggest refinements for the participants to reach a viable product idea by the end of the second week.

2. Product Design & Development

The participants will conduct the product design in one of the standard software (e.g., Solidworks) learnt during the course, and develop a prototype using the needed tools (e.g., 3D printing) at a low cost. Essential features of the product realised from the customer discovery phase will be incorporated into the product development. The design and fabrication will also be optimised to generate a production model that can be manufactured on a large scale. After these two weeks of rigorous product development, its distribution strategy will be planned based on the customer discovery phase's knowledge.



TUTORIALS

Business Model Canvas-Customer Discovery

A powerful tool to conceptualise commercialisable products. The participants will conduct customer interviews and identify the key partners, activities, resources, value propositions, customer segments and relationships, key resources, cost structure and revenue streams for testing their product feasibility.

User Persona Development (UX/UI design)

User personas are representations of a product's users. This is a way to understand a product's target users better and gain insight into the users' habits and preferences. Developing user personas helps in achieving the optimal design of products to enhance user experience. Hence, it is important to understand how user personas work, how to develop user personas, and when to use user personas.

Wireframing

Introduction to the concept of wireframing with examples, comparisons, frameworks, references and insights to help better utilise wireframes in the digital product development process. From the basic concepts like who uses wireframes, what their purpose is and how they can be used, to common web and mobile wireframe examples, pattern sources, and design patterns.

Designing on CAD

A CAD based product designing software will be introduced. From understanding the 2D sketching tools to 3D modeling features, and assembling of parts, overview of the software operations to convert a design idea into a model will be covered.

3D Printing

Additive manufacturing principles will be introduced. Different types of 3D printers will be covered, and their operational protocols will be discussed. Fabrication of the 3D design model of a commercial product will be covered.

Production Line Virtual Tour

An ensemble of videos capturing the entire production line in an automotive engineering company will be covered. The process from manufacturing operations (e.g., cutting, drilling) on individual parts to assembly of thousands of such components to generate the final product will be presented.

Crowdfunding

A less known, but very effective way of fundraising for your innovative digital or hardware based projects. The most popular platform, Kickstarter, will be introduced, and how to launch your own fundraising campaign will be explained stepwise through this tutorial.

Note: The programme curriculum may include more such tutorials for integrated learning.

PROGRAMME COORDINATORS



Dr. Biswajita Parida

Assistant Professor, Marketing
Department of Management Studies
Indian Institute of Technology Delhi

Prof. Biswajita Parida is an Assistant Professor in Marketing at the Department of Management Studies at IIT Delhi. She is a Fellow of the Indian Institute of Management Ahmedabad. She has taught at various B-schools including XLRI Jamshedpur, IIM Sambalpur, and NMIMS Mumbai. Her research interests are in the area of Consumer Behaviour, Advertising, and Branding. She has presented her work at various national and international conferences. Her teaching interests include Integrated Marketing Communication, Product and Brand Management, Technology and Marketing, Evolution of Consumer Behaviour, and Marketing Management.



Dr. Arnab Chanda

Assistant Professor,
Centre for Biomedical Engineering
Joint Faculty at the Department of Biomedical Engineering
Indian Institute of Technology Delhi

Dr. Arnab Chanda is an Assistant Professor at the Centre for Biomedical Engineering, IIT Delhi and a joint faculty at the Department of Biomedical Engineering, AIIMS, Delhi. He holds a PhD in Aerospace Engineering and Mechanics from the University of Alabama, USA and is the founder of BIOFIT Technologies LLC, USA. He has also worked as a postdoctoral researcher at the Department of Bioengineering, University of Pittsburgh, USA and as a research scientist in LP Amina, China. Dr. Chanda is an expert in the fabrication and mechanical characterisation of tissue mimics, and has previously developed artificial surrogates for human skin, muscles, brain, artery, and plantar fascia, and tested them at both lab and clinical settings. These experimental models have been used extensively for surgical training and to study a wide range of injury scenarios. To date, he has received young researcher awards from ASME and MHRD, and also holds 7 US Patents and several tech-transfers. Currently, Dr. Chanda heads the Biomechatronics Lab in AIIMS, Delhi, where his team is working on developing cutting-edge wearable technologies to mitigate foot related disorders.

Note: Industry Experts may also be invited to take classes in certain modules, details of the same will be updated closer to the programme start date.

LEARNING OUTCOMES

Acquire skills to create and successfully market products from a value-driven and customer-centric approach

Learn about development and launching of new technical and digital products.

Gain insight into crucial product road-mapping processes and lifecycles to ensure better marketability

Understand economics, maintenance and lifecycle management tools with regards to different product groups

Acquire hands-on experience with product design optimisation and design for manufacturing to enhance user comfort

Learn about industry-focused design quality protocols, lean manufacturing techniques, production planning & control

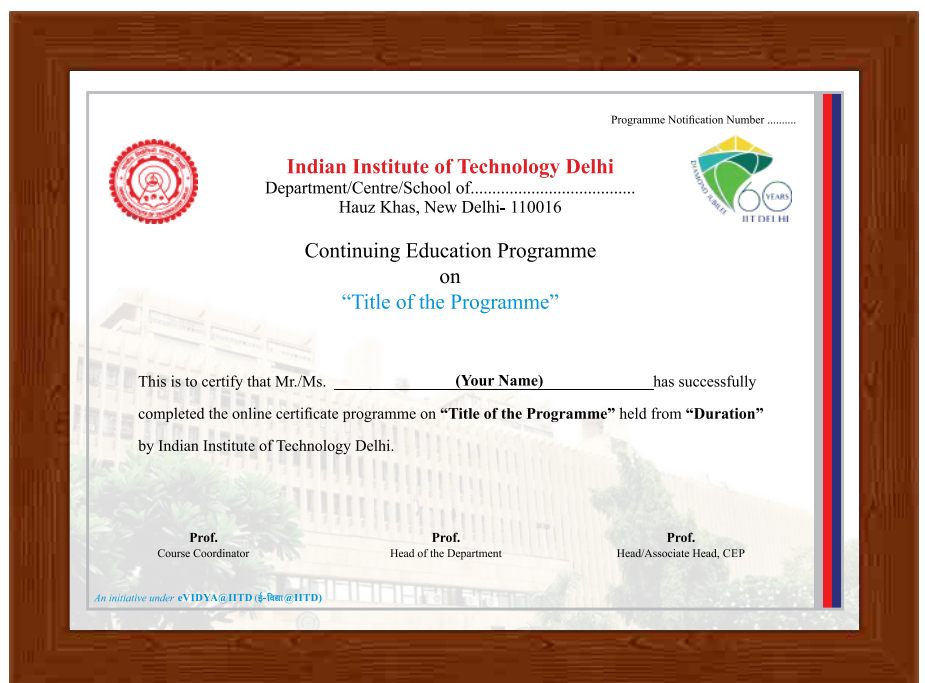
Derive insights on additive manufacturing (3D printing), subtractive manufacturing (CNC milling), and the role of automation and robotics



PROGRAMME CERTIFICATE

Participants will be awarded a successful completion certificate from IIT Delhi on scoring at least 60% points in each of the evaluation components and maintaining a minimum attendance of 80%.

Participants who are unable to maintain 60% points in the evaluation components, but have a minimum attendance of 80% shall be awarded a participation certificate.



Note: All certificate images are for illustrative purposes only and may be subjected to change at the discretion of IIT Delhi.

PROGRAMME DETAILS

Programme Schedule

Duration	5 Months
Academic Orientation	January 8, 2022
Live Online Sessions	4 hours/ week Saturday, 9:00 AM - 13:30 PM (4-hour session with 30 min break) Sunday, 9:00 AM - 13:30 PM (on need basis)
Programme Application Link	Click here to apply to the programme

Eligibility

- Graduates from any recognised University.
- Internship/Project/Work Experience will be preferred.

Evaluation

- Evaluation criteria is at the discretion of the faculty. The methodology includes quizzes, case analysis, projects, assignments and any other component as decided by the Faculty.

Selection Process

- Screening and selection will be done by IIT Delhi

PAYMENT SCHEDULE

Programme Fee INR 70,000 + GST

Instalment Schedule

	Booking Amount	Instalment 1	Instalment 2
Remarks	Dec 17, 2021	Feb 15, 2022	Apr 15, 2022
Amount	INR 10,000 + GST	INR 25,000 + GST	INR 35,000 + GST

Note:

- The actual programme schedule will be announced closer to the programme start.
- GST (currently @ 18%) will be charged extra on these components.

Last Date to Apply	Dec 07, 2021
Final Selection List	Dec 13, 2021
Last Date to Submit the Fee	Dec 17, 2021

Note: Applications will be reviewed based on eligibility and subsequent shortlisting process as laid down by the Programme Coordinator/s.

All fee should be submitted in the IIT Delhi CEP account only, and the receipt will be issued by IIT Delhi CEP account for your records.

APPLICATION REQUIREMENTS

Education Document:

- Consolidated graduation mark-sheet
- Degree Certificate

ID Proof:

- Any Government-issued photo ID like PAN Card/ AADHAAR Card, Driving License/ Passport, etc.
- Passport size photo is a must.

SYSTEM REQUIREMENTS

This programme includes live online classes conducted on Zoom. To attend a live online class you will need to have a PC/ Laptop/ Mac with:

- Speakers and microphone: built-in or a USB plug-in or wireless Bluetooth
- Webcam: built-in or USB plug-in
- Processor: with Dual Core 2Ghz or higher (i3/ i5/ i7 or AMD equivalent)
- RAM: 4 GB or higher
- OS: Either MacOS 10.7 or higher OR Windows 8 or higher
- An internet connection: Minimum bandwidth of 3.0 Mbps (up/ down)
- Browser: IE 11+, Edge 12+, Firefox 27+, Chrome 30+
- Zoom software client installed on your PC/ Laptop/ Mac

We use the Zoom software application to conduct live online classes. Zoom works on a variety of PCs/ Laptops/ Mac systems and also on phones and tablets.

You can join your live online class from a phone or tablet if it supports the Zoom client.

We recommend that you attend classes from a PCs/ Laptops/ Mac.

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 48,000 students have graduated from IIT Delhi in various disciplines including Engineering, Physical Sciences, Management and Humanities & Social Sciences. Of these, nearly 5070 received PhD degrees. The rest obtained Bachelor's and Master's Degrees 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 contributed significantly to the building of this nation, and to industrialisation around the world. For more details, please visit: www.iitd.ac.in

ABOUT IIT DELHI - 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. For more details, please visit: <http://cepqip.iitd.ac.in>



ABOUT ERUDITUS

Eruditus Executive Education offers customised and open programmes in India, Singapore, Dubai and other global locations in collaboration with MIT Sloan, Columbia Business School, INSEAD, Harvard Business School (HBS), Kellogg Executive Education, Berkeley Executive Education, Wharton Executive Education, IIM Lucknow Executive Education, IIM Calcutta Executive Education and Emeritus. Our world-class executive education programmes, supported by eminent programme experts, provide an immersive learning experience integrated with actionable insights and practical business applications. The meticulously curated programmes are delivered in a different range of formats; in-class, online, as well as blended programmes. Our extensive portfolio also includes short 2-4 day in-class workshops, online courses of 2-6 months duration as well as comprehensive learning journeys that run over 6-9 months, customised to an organisation's requirement.

Apply for the programme here

APPLY NOW

For registration and any other information, please get in touch with us at iitd@eruditus.com

For any feedback, please write to Head CEP, IIT Delhi at hodqipcep@admin.iitd.ac.in

 [WhatsApp an Advisor On +91 7208889990*](https://wa.me/917208889990)

* This number does not accept any calls. Please message your queries.



Online Certificate Programmes are offered by the Indian Institute of Technology Delhi under the aegis of Continuing Education Programme (CEP) so that the Institute can realise its vision of serving as a valuable resource for industry and society, and fulfil its mission to develop human potential to its fullest extent so that intellectually capable and imaginatively gifted leaders can emerge in a range of professions.

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