भारतीय प्रौद्योगिकी संस्थान दिल्ली
Indian Institute of Technology Delhi

Executive Programme in

Healthcare Entrepreneurship and Management

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

Overview

The world has changed ever since the pandemic. Health and well-being have come under more and more scrutiny. Healthcare has been the focus of the majority of inventions, from the adoption of a variety of medical apps and telemedicine technologies to the increased public interest in smart wearables and medical gadgets. For businesses and start-ups, this has created a once-in-a-lifetime opportunity for businesses and start-ups to enter this market.

Unlock new paradigm of growth in healthcare industry with Executive Programme in Healthcare Entrepreneurship and Management- IIT Delhi curated for graduates and working professionals to develop transitional entrepreneurship roles. This learner-centric programme will cover the conception, design, prototyping, testing, customer discovery, sales and marketing, commercialization, and management of innovative healthcare products and services. The development, design, testing, customer identification, sales and marketing, commercialization, and management of new healthcare products and services will all be covered in this course.

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There will be discussion with IIT Delhi's faculty, doctors from AIIMS, and industry experts on:

- A wide range of healthcare issues, from mental illnesses to foot pain, and appropriate product- and service-related solutions will be developed.
- Key design concepts will be taught for B2C, B2B products, and hands-on experience will be provided on customer discovery, iterative design optimization, and design of minimum viable product (MVP).
- State-of-the-art prototype development processes, tools, and testing methods will be discussed, along with the role of AI/ML, strategies for effective product branding, pricing, sales, and go-to-market.
- In-depth discussions on commercialization and management concepts, particularly those related to business model development, funding, and intellectual property.

Programme Highlights

01

Certificate from prestigious CEP, IIT Delhi

02

Top IITD faculties and industry experts

03

Holistic curriculum covering concepts & applications

04

Projects, Tutorials and Hands-on experience

05

Rich peer group learning and networking

Key Learning Outcomes

- Innovate new healthcare products and services from a value-driven and a customer-centric approach.
- Gain successful process-oriented design thinking capabilities.
- Be an expert in healthcare product prototyping and testing.
- Develop a strong foundation in branding, pricing, sales and go-to-market strategies.
- Learn key commercialization concepts such as business model development, funding, intellectual property, regulations.
- Build a strong foundation for biomed/biotech engineering and management roles.
- Launch successful healthcare start-ups.

Programme Content

Module 1. Conception

- Basics – What is entrepreneurship? What is a product? What is the difference between product and service?
- Healthcare problems and unmet need – Current health related challenges-pre and post pandemic, existing solutions, product, and service requirements
- Empathy, Personas, User Stories – stepping into consumers' shoes and understanding medical issues
- Identifying New Opportunities in Healthcare Innovation using Data – market gap
- Understanding healthcare policies and strategies
- Market Research for Healthcare Product or Service Development – How to conduct market research?
- Idea Generation & Need Analysis – Source, evaluate ideas
- Concept testing using Surveys-Customer Discovery: template, evaluate the value proposition
- Design Thinking for B2C, B2B Products and Services
- Competition Analysis and Product Market Fit

Module 2. Design

- Product Design Process - 7 Stages
- Healthcare Product Specifications and Features
- Visual Design Elements – Branding elements
- Tools for Design of Products and Services - Softwares
- User experience (UX) and User Interface (UI) design
- Computational Tools used in Design and Analysis of Healthcare Products
- Quality Engineering and Iterative design optimization
- Design for Manufacturing

Module 3. Testing

- What is Minimum Viable Products (MVP)?
- Types of MVP
- Prototype development for Physical and Digital Healthcare Products, and Services
- Wireframing
- Manufacturing Techniques – Additive (3D Printing), Subtractive, biochemical, multi-scale
- Material Selection for Healthcare Product Prototyping
- Role of Robotics and Automation in Prototyping
- Prototype Functionalization using Electronics and Instrumentation, Role of AI/ML
- Introduction to Medical App Development

Module 4. Sales and Marketing

- Branding, Brand Awareness, Consumer Brand Knowledge
- Human Behaviour Management
- Product-line Decisions (extension, reduction), Product Category expansion
- Pricing Model and Strategy
- Segmentation | Target | Positioning
- Sales Forecasting
- Distribution Channels
- Lead Generation-Role of Contacts and Social Media
- Customer Acquisition and Retention

Module 5. Commercialization

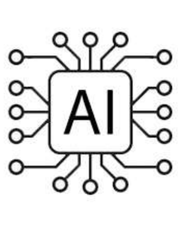
- Introduction to Business Model Canvas
- Funding Requirement and Avenues
- Team Building and Collaborations
- Intellectual Property and Trademarks
- Ethical and Legal Implications in Healthcare Industry
- Market Competition and Creating Barriers to Entry
- Deployment and Distribution Strategy
- Launching of Start-up: Rules and Steps
- Scale-up Model and Sustainable Growth Plan
- Healthcare Quality Management

Project(s)	Bootstrapped development of 1 Product per team (5-10 students), with a tested deployment, marketing, and go-to-market commercialization plan. It will include expertise from local hospitals such as AIIMS.
Tutorials	• Business Model Canvas-Customer Discovery • Designing on CAD • 3D Printing • App Development • Grant Writing • Crowdfunding

Note: This is an indicative list of modules, projects, and tutorials, tools and is subject to change as per IIT Delhi's discretion.

Gain exposure to the applications of below tools and libraries in healthcare space:





Pedagogy

The teaching will focus on learning important concepts from scratch through discussions on real life examples. The topics will then be applied by the students as a part of the course and project assignments. The project, which will run throughout the course, will involve hands-on training on the topics taught and enable the development of a strong technical and entrepreneurial mindset. Dynamic two-way feedbacks will ensure effective mentoring and student learning.

Programme Details

Duration	• 5 Months
Delivery	• Synchronous, Live Online Mode • 80 Hours Live Online Lectures • 40 Hours of Project
Schedule	• Lectures: 1 day weekend class (Saturday) 10.00 AM to 12.00 PM, 12:30 PM to 02:30 PM • Project: 1 day weekend class (Biweekly Sunday) 10.00 AM to 12.00 PM, 12:30 PM to 02:30 PM • Commencement Date: 15th April 2023 • Application Closure Date: 8th February 2023
Eligibility	• A bachelor's degree. • Prior work experience or a certificate of completion of an internship or project is desirable.
Screening & Selection	• Applications will be reviewed based on the eligibility and subsequent shortlisting process as laid down by the Programme Coordinator.
Assessment Criteria	• 40% Assignments • 50% Projects • 10% Attendance Candidates need to secure a minimum of 60% overall to be eligible for the Successful completion certificate.
Attendance	• Minimum of 70% attendance is mandatory.

Application Requirements

Education Document

- Consolidated graduation mark-sheet / Passing Certificate

Experience Document (If applicable)

- For Previous Organization(s): Relieving letters
- For Current Organization: Current Salary Slip or Bonafide Certificate from the HR department on company letterhead.

ID Proof

- Any Government-issued photo ID like PAN Card/ Driving License/ Passport, etc.

Programme Fee Structure & Installment Pattern

Particulars	Amount
Total Programme Fee	INR 85,000/- + GST

Instalment Pattern		
Particulars	**Instalment Amount**	**Payment Schedule**
Booking Amount	INR 45,000 +GST	7 days from date of offer
Instalment 1	INR 40,000 + GST	10th June 2023

*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.

Programme Certification

- You will be awarded a Completion Certificate if you obtain 60% aggregate marks in the evaluation components and maintain a minimum attendance of 70% in lectures and tutorials.
- Participants who are unable to score 60% marks in the evaluation will be eligible for the Participation Certificate if their attendance is above 70%.
- The organising department for this programme is the Centre for Biomedical Engineering.
- Only e-certificates will be issued by CEP, IIT Delhi, as per the sample below.

Programme Notification Number .....

Indian Institute of Technology Delhi
Department/Centre/School of.....
Hauz Khas, New Delhi- 110016

Continuing Education Programme
on
"Title of the Programme"

This is to certify that Mr./Ms. **(Your Name)** has participated in the online certificate programme on **"Title of the Programme"** held from **"Duration"** by Indian Institute of Technology Delhi.

Prof.
Course Coordinator

Prof.
Head of the Department

Prof.
Head/Associate Head, CEP

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

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Prof.
Course Coordinator

Prof.
Head of the Department

Prof.
Head/Associate Head, CEP

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

Programme Coordinators

Dr. Arnab Chanda

Assistant Professor in the Centre for Biomedical Engineering, IIT Delhi
PhD, University of Alabama, USA

- A joint faculty at the Department of Biomedical Engineering, AIIMS, Delhi
- Founder of a startup company BIOFIT Technologies LLC, USA
- Ex-postdoctoral researcher at the Department of Bioengineering, University of Pittsburgh, USA
- Holds 7 US Patents and several tech-transfers

Dr. Biswarup Mukherjee

Assistant Professor at the Center for Biomedical Engineering, IIT Delhi
PhD, Indian Institute of Technology Madras (IITM)

- Ex- postdoctoral research fellow at Harvard Medical School

About IIT Delhi

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

3rd Rank
as per ARIIA Ranking (2021)

#3 Rank
IITD is ranked as per QS World University Ranking 2023 in India

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.

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.

Service provided by

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

"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.