



भारतीय प्रौद्योगिकी संस्थान दिल्ली
Indian Institute of Technology Delhi



CERTIFICATE PROGRAMME IN BUSINESS ANALYTICS & OPTIMISATION

Starts October 16, 2021 | 5 Months | Live Online Sessions

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

OVERVIEW

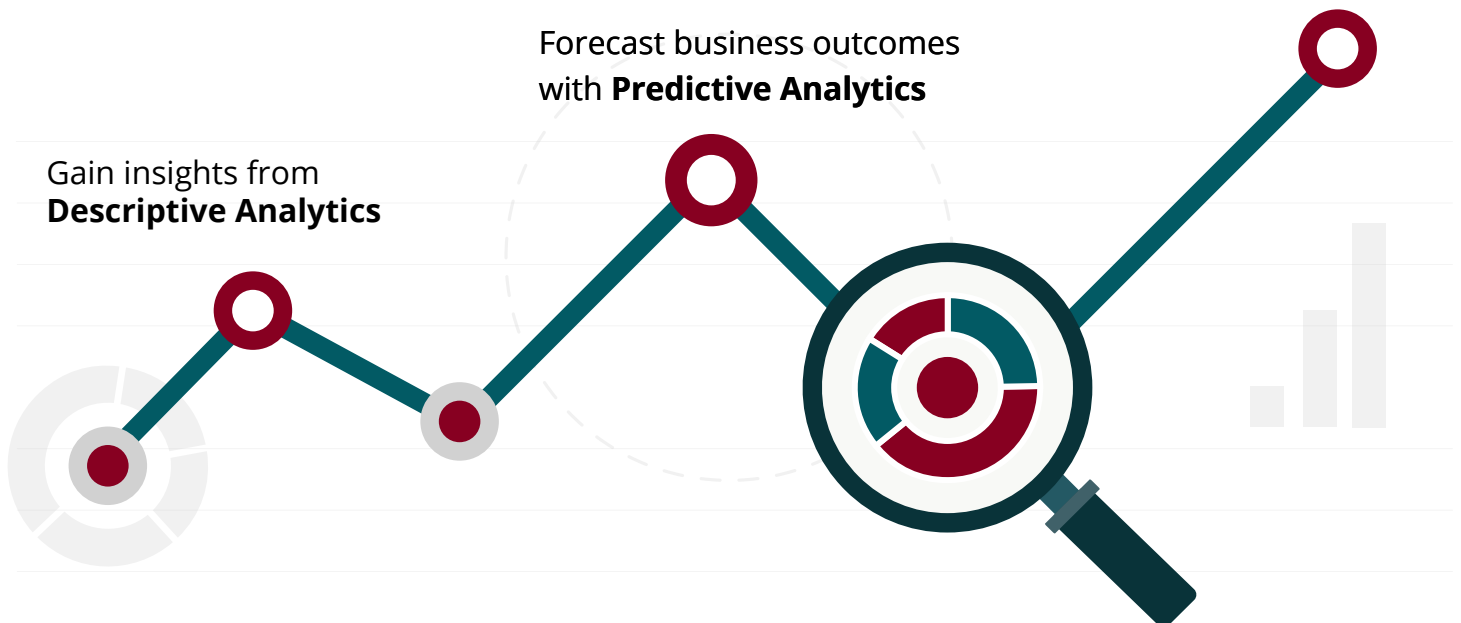
About 94% of enterprises say data and analytics are important to their business growth (Gartner). With data taking centre stage, starting from predicting business outcomes to understanding consumer behaviour and market trends, analytics can help fuel business growth. With such a promising scope ahead, the Indian Institute of Technology Delhi (IIT Delhi) has designed the five-month **Certificate Programme in Business Analytics & Optimisation** to help professionals upskill and acquire industry-ready skills. Joining this programme will empower you to leverage the potential of analytics and business intelligence for organisational growth and transformation.

WHO IS THIS PROGRAMME FOR?

This programme is suitable for:

- Mid-level and early professionals looking to build or accelerate their career in business analytics by advancing their skills and competencies.
- Professionals keen on enhancing their analytical capabilities and decision-making ability to drive business decisions through data-oriented insights and solutions.

Make informed decisions with **Prescriptive Analytics**



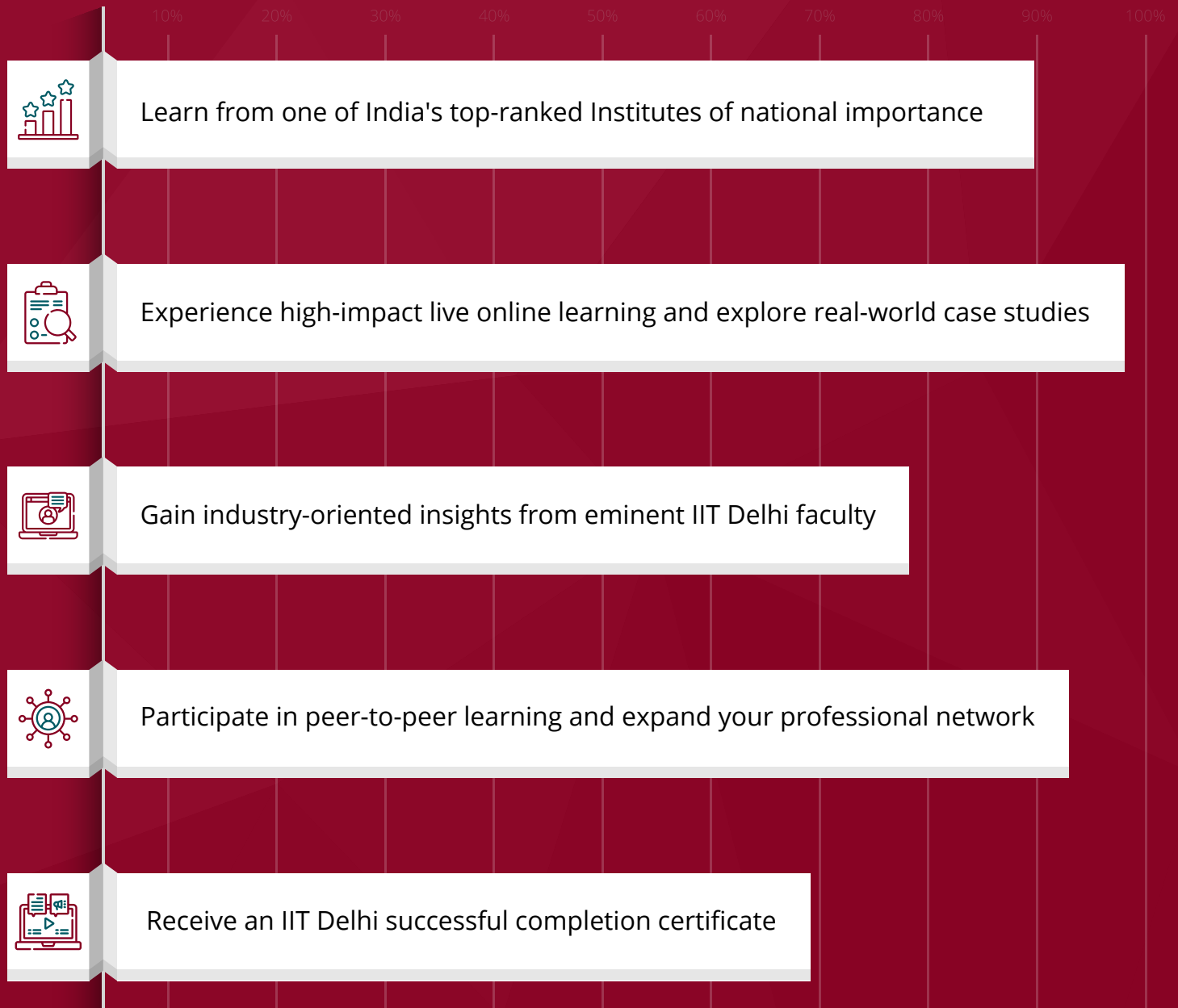
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Information is the oil of the 21st century, and analytics is the combustion engine.

- Peter Sondergaard,
Former Executive Vice President, Gartner

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PROGRAMME HIGHLIGHTS



TOOLS INCLUDED



Note: All product and company names are trademarks or registered trademarks of their respective holders. Use of them does not imply any affiliation with or endorsement by them.

PROGRAMME MODULES

Module 1: Foundations of Business Analytics

- Introduction to Business Analytics
- Business Analytics for Competitive Advantage
- Fundamentals of R, Python, MS Excel, SQL, and Tableau

Module 3: Exploratory Data Analysis and Visualisation using MS Excel/ R/ Python/ Tableau

- Descriptive Analytics
- Building Data Models
- Spreadsheet Modelling
- Data Cleaning & Data Handling
- Generating Insights through Data Visualisation

Module 5: Machine Learning for Managers

- Supervised & Unsupervised Learning
- Machine Learning using Neural Networks
- Decision Trees and Random Forests
- NLP and its applications

Module 7: Big Data Analytics for Managers

- Introduction to Big Data
- Applications of Big Data Analytics
- Approaching issues in Big Data Analytics

Module 2: Statistical Analysis for Business Decisions

- Probability Models
- Sampling, Hypothesis Testing & Statistical Inference
- Analysis of Variance
- Business Applications & Insights

Module 4: Predictive Analytics for Business

- Linear & Non-linear Regression
- Logistic Regression
- Data Mining for Predictive Analytics
- Classification and Clustering
- Time Series and Forecasting
- Text Analytics

Module 6: Prescriptive Analytics

- Optimisation Techniques
- Linear & Non-linear Programming Models
- Mixed-Integer Programming (MIP)
- Simulations

Module 8: Applications and Case Studies

- Analytics in Marketing & Market Research
- Analytics in Finance/ HR
- Analytical techniques in Operations & Supply Chain Management

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

PROGRAMME COORDINATOR



DR RAVI SHANKAR

Professor,
Department of Management Studies, IIT Delhi

Dr Ravi Shankar is a Senior Professor at IIT Delhi and the "Amar S. Gupta Chair Professor of Decision Science" for five years (Aug 2016 to Jun 2021). He has a rich industry and teaching experience of over 30 years. He is an internationally acclaimed academic in Decision Sciences, Business Analytics and Operations & Supply Chain Management. He was Hon. Visiting Professor of Decision Sciences for 3 years (January 2018 to January 2021) at "School of Economics & Management, Loughborough University, U.K." and Hon. Visiting Professor of Decision Sciences for over two and half years at "College of Business and Economics, Lehigh University, U.S.A." (since January 2019). Earlier, he had also served at School of Management at Asian Institute of Technology, Thailand.

He has supervised over 60 PhDs to completion. He has received the "Dr R. P. Mohanty Gold Medal for Outstanding Teacher Award" in 2018 by the Indian Institute of Industrial Engineering (IIE), Mumbai, India. He has published over 300 research papers and co-authored nine books, and his research citations exceed 32,000, with an H-index of 74 (July 2021). He has been ranked as the most productive researcher in all Business Schools of India (Ref: *Omega: The International Journal of Management Science*, Vol 66 pp 118-139). Dr Shankar has trained over 5,000 corporate professionals through online and classroom- training programmes in varied subjects and is a Fellow of the prestigious Indian National Academy of Engineers (FNAE).

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The sequential modular approach of this high-impact programme will explore a step-by-step framework for transforming data into business insights to strategise an effective business decision-making process. Participants will gain actionable insights through a mix of lectures, tutorials using data, real-world case study discussions, and real-life applications of analytics augmented across modules.

- Dr Ravi Shankar

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LEARNING OUTCOMES

Drive business decisions by leveraging descriptive, predictive, and prescriptive analytics techniques

Apply suitable analytical approaches to find solutions that attain stated business objectives

Enhance analytical capabilities and data-driven decision-making ability

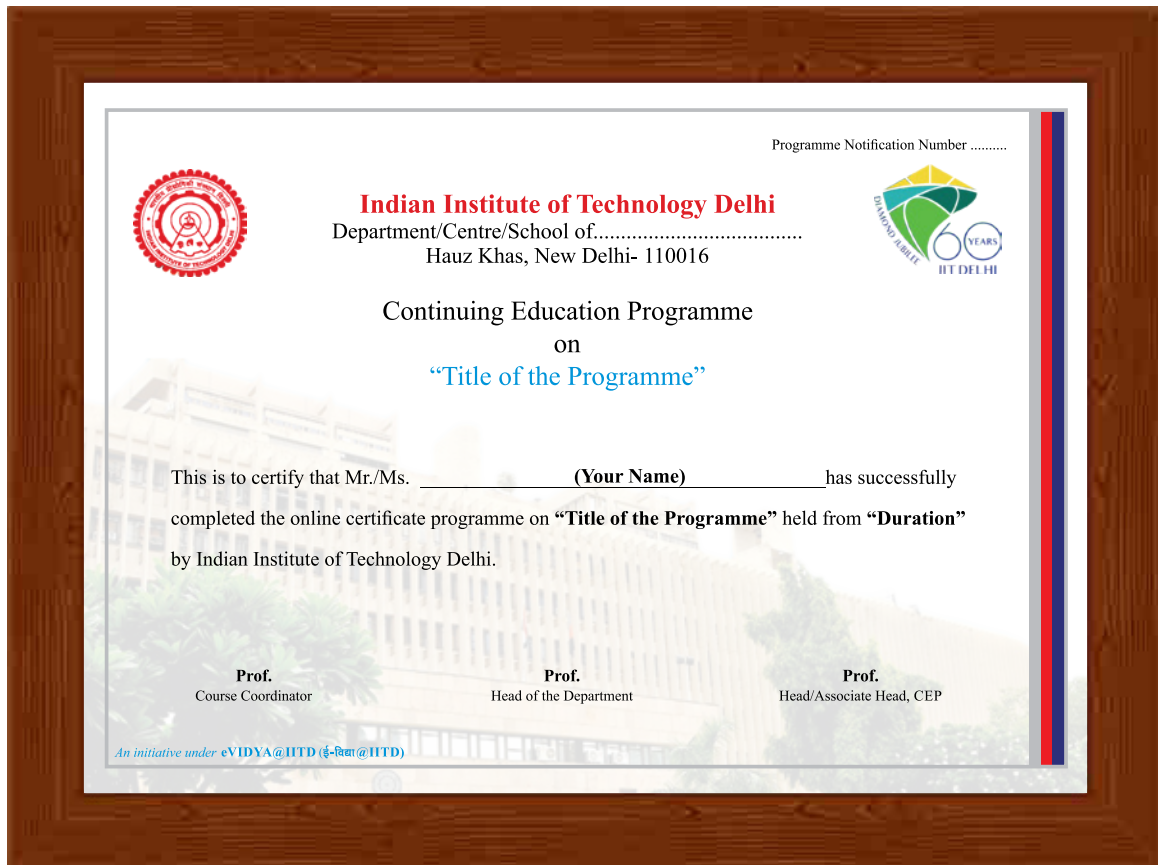
Interpret results of business analytics projects into effective courses of action

Recognise and define complex business problems in terms of analytical representations



PROGRAMME CERTIFICATE

Participants will be awarded a successful completion certificate from IIT Delhi on scoring at least 50% points in each of the evaluation components and maintaining a minimum attendance of 60% in both lectures and tutorials. Participants who are unable to maintain 50% points in the evaluation components, but have a minimum attendance of 60% in both lectures and tutorials shall be awarded a participation certificate.



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

ELIGIBILITY

- Graduates in any discipline (10+2+3)/ Diploma Holders (only 10+2+3) from all disciplines can apply
- Work Experience and basic understanding of Statistics will be preferred

SELECTION PROCESS

- Screening and selection will be done by IIT Delhi

EVALUATION

- Evaluation methodology will include quizzes, case analysis, projects, assignments, and any other component at the discretion of the faculty

PROGRAMME DETAILS

Duration 5 Months

Academic Orientation Oct 16, 2021

Live Online Sessions 3 Hours/ Saturday, 06:45 PM to 9:45 PM

Programme Application Link [Click here](#) to apply to the programme

PAYMENT SCHEDULE

Programme Fee INR 60,000 + GST

Instalment Schedule

	Instalment 1	Instalment 2
Remarks	Oct 11, 2021	Jan 10, 2022
Amount	INR 30,000 + GST	INR 30,000 + GST

Note:

- The actual programme schedule will be announced closer to the programme start.
- In case a programme session corresponds with a public holiday, the session would be held on the next day.
- GST (currently @ 18%) will be charged extra on these components.

Last Date to Apply	Oct 6, 2021
Shortlisted Candidates Will Be Informed by	Oct 8, 2021
Last Date to Submit the Fee	Oct 11, 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

Graduation and Post-Graduation Education:

- Graduation (10+2+3)/ Diploma (only 10+2+3) Marksheet
- Passing Certificate – Diploma/ Degree/ Doctorate

Experience Documents (If Applicable):

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

ID Proof:

- Any Government-issued photo ID like PAN Card/ AADHAAR Card, Driving License/ Passport, etc.
- Submission of passport-size photo during application is mandatory

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 23 IITs created to be Centres of Excellence 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 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 number of students who graduated with a B.Tech degree is over 15738. 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 contributed significantly to the building of this nation, and to industrialisation around the world. For more details, please visit: www.iitd.ac.in

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. 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 2-3 months duration as well as comprehensive learning journeys that run over 6-9 months, customised to an organisation's requirement.

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*

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

Service Provider



ERUDITUS

EXECUTIVE EDUCATION

Disclaimer: 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