



Executive Programme in Data and Decision Sciences Consulting

(February 6th to May 9th, 2021. Classes on Weekends)

Background: With the huge amount of data and its complexity involved in today's business processes, there is a need to analyze and visualize this data and make effective decisions in the real business problems involved. Thus there is a need to leverage upon the data and decision sciences techniques to take on business challenges and goals. Data science professionals become experts to extract meaning from large volumes of data, which requires both tools and methods from mathematics, operational research, statistics, computer science, and other related subjects. The objective is to augment managerial decision making from data driven insights. Exploration in the domain is a collaborative approach involving mathematical understanding, business tactics, technological applications and behavioral sciences to help management make data driven decisions. Pedagogy would involve lectures, classroom discussions, group assignments, case studies and hands-on sessions in IIT Delhi spread over 12 full days over weekends. Over 100 Research Articles and Reading Material is given to participants. This is completely classroom based and there is no online component.

Programme Objectives:

1. To understand information management and data sciences from a techno-functional perspective.
2. Analyzing and solving complex business problems through effective data driven decision making.

Contents overview: Types & Levels of Analytics Systems, Descriptive Analytics using MS Excel and SPSS, Data Mining approaches for predictive analytics, Supervised and Unsupervised learning, Regression using SPSS, Multivariate analysis using SPSS, Data Multidimensionality, Analytics Project Management, Data model building, Prescriptive Analytics using MCDM / AHP, Machine Learning using Neural Networks, Hands on with Machine Learning, Big Data Applications, Data Modelling for Big Data Product Development, Natural Language Processing & Applications, On Site Web Analytics (Google), Social Media Analytics, Network Science & Applications, Data Visualization approaches, Overview on decision making models, Application of decision making models, Quantitative Data Analysis through LP/NLP (Single Objective) using Excel/LINGO, Quantitative Data Analysis through LP / NLP (Multiple Objective) using Excel / LINGO, Heuristics / Meta-Heuristics / Hyper-Heuristics, Predictive Analytics, Prescriptive Analytics using MCDM: ISM, IRP, DEMATEL, TOPSIS, Prescriptive Analytics using Fuzzy-MCDM: Fuzzy-ISM, Fuzzy-IRP, Fuzzy-DEMATEL, Fuzzy-TOPSIS, Prescriptive Analytics using hybrid-MCDM:IRP-AHP, Qualitative Analysis from Most Likely, Pessimistic and Optimistic Approach and its convergence, Aggregation of ranking variations using MILP in Excel/LINGO etc.

Note: This is a certificate programme under continuing education of IIT Delhi and not a Degree Programme. Certificate of participation in the programme is given on crossing 50% marks in assessment with over 75% attendance.

Program Coordinators:

- Prof. Arpan Kumar Kar (arpankar@iitd.ac.in), +91-11-2659-7320
- Prof. Surya P Singh (sprsingh@dms.iitd.ac.in), +91-11-2659-6302

Experts for Sessions: Faculty Members of IIT Delhi (90%) and domain experts from the academia/government/industry.

For whom: Working professionals, entrepreneurs, owner-managers, senior / mid-level managers, young graduates.

How to Apply: Please fill the online application form <https://goo.gl/forms/tMe9erDPpTGptEsw2>

Dates:

Call for applications: 1st October 2020.

Last date for application: 30th November, 2020.

Final list of selection: 15th December, 2020.

Registration deadline: 7th January, 2021

Selection: All graduates are eligible. However work experience and academic background would be used in the short-listing process. Shortlisted applicants shall be called for on spot registration against payment of fees to IIT Delhi.

Fees: Payable to IITD CEP Account: Rs.1,18,000 (Course fee + GST@18%) after selection in the programme.