



A COMPREHENSIVE COURSE ON BUSINESS ANALYTICS BY

SQC & OR UNIT, MUMBAI
INDIAN STATISTICAL INSTITUTE

88 HOURS, 16 WEEKS Online Classes for including 8 hours of Python Tutorial

MODULES

- 1. Basics of Business Analytics and Business Intelligence (BI) [30 Hours]
- 2. Statistical (Model Based) Learning [25 Hours]
- 3. Machine (Algorithm Based) Learning [25 Hours]

KEY HIGHLIGHTS

- 1. Focus on Enabling Participants to Solve Real Life Problems
- 2. Case Example & Exercises Using Real Data
- 3. End-to-End Real Life Case Studies
- 4. Hands-on training
- 5. Virtual mode

To Know More Register Using The Following QR Code



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CLASSES STARTING IN MARCH 2023

BROUGHT TO YOU BY



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A Comprehensive Course On Business Analytics

**Pre-Course Material On Python Program Language
Followed by 1 day session**

**Classes on Sat (half day) and Sun (full day) – 1.5 days (10 hrs)
Twice in a month (alternate weeks) for 4 months**

Appx 88 Hrs.



Conducted by:
SQC & OR Unit, Mumbai
Indian Statistical Institute

Introduction:

Business analytics refers to the skills, technologies and practices for continuous, iterative exploration and investigation of past business performance to gain insight and drive business planning. Data mining is the set of methods and techniques for exploring and analyzing large data sets, in an automatic or semi-automatic way, in order to find among these data certain unknown or hidden rules, association or tendencies that could be used to enhance business performance. Both the topics require analysis of data using statistical, machine learning and other quantitative techniques using various software. This program is planned to impart problem formulation and data analysis skills to the participants using appropriate statistical and machine learning techniques. The program focuses on practical applications to enable participants to solve real problems.

About the Institute:

The Indian Statistical Institute is a quasi-central organization under the Ministry of Statistics & Program Implementation. It is declared by an Act of Parliament as an Institution of National Importance. Over the years the Institute has grown as a multi-disciplinary organization. It functions as a university empowered to award degrees up to Ph.D.; as a Corporation in undertaking large scale projects for public and private sectors as well as central and state governments; as a Firm of Consultants to industries to improve Quality, Reliability and Efficiency; and as a meeting place for academics and professionals.

Program Objectives:

This program is designed to guide business analytics and data mining professionals in extracting implicit, previously unknown and potentially useful knowledge from large data sets. Practical data analysis including insight development, data cleaning, and building predictive and explanatory models in Python using statistical and machine learning techniques will be covered in detail.

Program Benefits:

The participants will acquire knowledge on various statistical and analytical techniques required to carry out business analytics and data mining tasks effectively. All the topics will be covered using Python and MS-Excel.

Course Coverage: The course is divided in 3 modules, as follows:

Module – 1: Basics of Business Analytics and Business Intelligence (BI) (30 Hrs.)

Introduction to Business Analytics, Summary Measures and Visualization, Exploring Relationships between Variables using Summary Measures and Visualization Techniques with exercises, Understanding Business Problems from a Probabilistic Perspective – Looking at problems and their formulations in terms of random variables, parameters, estimation of parameters and hypothesis testing. (t-test/chi-square/proportion), Introduction to Python, Basics of Data Collection and Cleaning including Missing Data Handling.

Module – 2: Statistical (Model Based) Learning (25 Hrs.)

Preliminaries of Model Based Learning and Introduction to ANOVA, Techniques of Data Transformation and Dimensionality Reduction (Box Cox - PCA), Value Estimation Preliminaries – An Introduction to Multiple Linear Regression (MLR), Concepts of overfitting, model tuning, regularization, resampling and cross validation and their usage in the context of MLR, Classification and Risk Analysis – Logistic Regression and Discriminant Analysis, Forecasting Models including ARIMA and Time Series Regression, Survival Analysis.

Module – 3: Machine (Algorithm Based) Learning (25 hrs.)

Introduction to Machine Learning, Basics of Machine Learning, Unsupervised Machine Learning – Clustering; Market Basket Analysis: Supervised Machine Learning – KNN for Value Estimation and Classification and Naive Bayes' Classifier, Tree Based Methods, Bagging, Boosting, Random Forest, Support Vector Machines (SVM), Neural Networks (ANN)

After each module, test will be conducted in MCQ format. Assignment will be given after each module. Participants are expected to carry out the assignments and present their finding in the next module to enhance their grasp on the subject.

Eligibility:

- Managers / Executives/ Professionals/ Students associated with data analysis or planning to have a career in Analytics.
- Should be graduate in any discipline. Preliminary knowledge of Excel is desirable.

Schedule:

On Saturday 0930 - 1400 and Sunday 0930 to 1800 hrs.

Faculty:

Experienced faculties of SQC & OR Division of ISI having in-depth experience in data analysis and its application in various industries.

Course Fee:

INR 40000 per participant + 18% GST= **INR 47200/-**

Registration:

- Please send your nomination along with appropriate course fee in the attached registration form given below. Seats will be allotted based on the selection done by ISI faculty.
- Fees once paid will not be refunded under any circumstances

Scan the following barcode for registration form or click on the link below

<https://forms.gle/HSyho4deURsCjqPf6>



Certification:

Certificate will be issued by ISI on completion of the course and project work.