



# INDIAN STATISTICAL INSTITUTE

announces

## Outreach Program on Data Processing using Python



**30 December 2022 – 07 January 2023**  
**SQC & OR Unit, Bangalore**



Organized by:

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## **Program Objective**

This program is designed as a preliminary course for those interested in data mining and machine learning techniques

## **Program Benefits**

The participants will acquire the knowledge required for

- Extracting insights through data summarization and aggregation methods
- Preparation of data for analytics using transformations and advanced imputation techniques
- Exploration of relationships through data visualization techniques
- Extraction of important features using recursive feature elimination methods
- Supervised Learning – Classification & Regression Tree, Random Forest & Bagging
- Unsupervised Learning – Factor & Cluster Analysis.
- Hands on experience on the usage of open source package Python

## **Eligibility**

- Any science, commerce or engineering graduate, post-graduate students, research scholars, faculties and other academicians can participate in the program
- Online examination will be conducted at the end of the course and successful candidates will be issued the certificate

## Course Content

Module	Topic
Module 1	Descriptive Statistics Introduction to Python and Jupiter Notebook Data Summarization and Aggregation Techniques
Module 2	Missing Value Handling, Data Merging and Appending Data Scaling / Transformations, Advanced Imputation, Feature Selection and Data Visualization Techniques
Module 3	Supervised Learning Techniques– Classification and Regression Tree, Random Forest & Bagging
Module 4	Unsupervised Learning Techniques – Factor Analysis & Cluster Analysis

The course material and data sets will be shared with the participants. Training will be conducted through online classes.

### Application Form

<https://forms.gle/nWdsJ52b6kxkWuWd9>

**Note:** Kindly mention the participant and course (DP-03) names in remark/message field while doing online transfer of course fee

## Course Fee

INR 500/- +18 % tax, inclusive of course material.

Seats are limited. Enrolment on the First-Come-First-Serve basis. Before making online course fee payment, kindly check the availability of seats.

## Important Dates

Last date for submission of application forms: 28 December 2022

Course Dates: 30 – 31 December 2022 & 6 – 8 January 2023

Duration: 4 days

Timing: 10:00 am to 5:00 pm

## Course Fee

Fee	GST	Total Amount
Rs. 500/-	Rs. 90/-	Rs. 590/-

**Online Fund Transfer Details**

Bank Account Details	
Name	Indian Statistical Institute
Bank	Uco Bank, Kengeri Branch
Account Number	02970200000702
IFSC Code	UCBA0000297
Type of Account	Current Account

**Contact:** Program Director: DP-03,  
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## **SQC & OR Division, Indian Statistical Institute**

1. A pioneer and leader in blending statistical theory with practice and institutionalizing the continuous improvement process into a sustainable system.
2. Continually develop and improve methodologies through applied research efforts to attain International Standards in services provided.
3. Organizes training programs, workshops and undertakes industrial consultancy and corporate training program assignments in the field of quality engineering & management, data science, business analytics, etc.
4. Help industries in their efforts to cope up with the growing challenge of global competition by undertaking projects on quality & reliability improvements, process performance modeling and optimization using statistical and machine learning techniques
5. Academic programs (with stipend) offered:

### **MS in Quality Management Sciences**

<https://www.isibang.ac.in/~adean/infsys/database/msqms/msqms.pdf>

### **MTech in Quality, Reliability and Operations Research**

[https://www.isical.ac.in/~deanweb/Final\\_Syllabus\\_for\\_M\\_Tech\\_QROR-2015.pdf](https://www.isical.ac.in/~deanweb/Final_Syllabus_for_M_Tech_QROR-2015.pdf)

### **PhD in Quality, Reliability and Operations Research**

<https://www.isical.ac.in/content/research-fellowships-0>