



"Techno-Social Excellence"

**Marathwada Mitramandal's Institute of Technology**  
Lohgaon, Pune-411047  
Accredited with 'A' Grade by NAAC

"Excellence in the field of AI & DS"

**Department of Artificial Intelligence & Data Science**  
(Academic Year 2022-23)

**Add-on Course**

**On**

**Let Us Python for Data Analytics**

**Held on**

**8<sup>th</sup> Mar 2023 to 20<sup>th</sup> Apr 2023**

**Coordinator**  
**Ms. R. A. Agrawal**



**HOD**  
**Mr. S. A. Agrawal**

## Add-on Course Details

**Topic:** Python for Data Science

**Attendee:** 42 Students (SE/TE Mechanical and Mechatronics Department)

**Organized By:** Department of Artificial Intelligence & Data Science, MMIT, Lohgaon-411 047

**Date:** 8<sup>th</sup> Mar 2023 to 20<sup>th</sup> Apr 2023

**Total Course Hours:**40 Hrs.

**Mode of conduction:** Offline

**Course Conducted By:**

**Name:** Mr. Sanjay A. Agrawal

**Designation:** HOD, AI & DS Department, MMIT, Pune.

**Name:** Mr. Nisar S. Shaikh

**Designation:** Assistant Professor, AI & DS Department, MMIT, Pune.

**Name:** Mrs. Rucha A. Agrawal

**Designation:** Assistant Professor, AI & DS Department, MMIT, Pune.

**Name:** Mr. Ashish K. Bhise

**Designation:** Assistant Professor, AI & DS Department, MMIT, Pune.

**Name:** Mr. Yogesh B. Dongare

**Designation:** Assistant Professor, Computer Department, MMIT, Pune.

## Objectives of Expert Lecture

The main objective of the course is to provide students with the basic concepts of Python, its syntax, functions and packages to enable them to write scripts for data manipulation and analysis. The course develops skills of writing and running a code using Python. The course covers various variables types and their features, basic operators and statements, loops, as well as the main packages for data science: Pandas, Matplotlib, Seaborn. At the end of the course, students should be able to write short scripts to import, prepare and analyze data.



**Introduction:**

The Add-on course provides students with wide general overview of Python – a general-purpose programming language that is becoming ever more popular for data science. The focus is on the application of Python specifically for data science. The course is about ways to import, store and manipulate data, and helpful data science tools to conducting data analyses. The course is intended for students with little programming background. This Add-on course contain a comprehensive topic combining not only theory but also practical session. This Add-on Course is foundation for students who want to become a Data Scientist or Data Analytics.

**Module-I**

**Conducted by** Mr. Ashish K. Bhise

**Duration:** 08/03/2023 To 11/10/2022 & 15/03/2023

**Following topics are covered in the Module-I:**

- Identifiers and Keywords, Python Types, Basic Types
- Integers and float ranges, variables, types and Assignment
- Arithmetic Operators, Operation Nuances
- Precedence and Associativity, Conversions
- Built-in functions, built-in modules
- Python Type Jargon, Comments and Indentation, Multi- lining
- Classes and Objects

**Module-II**

**Conducted by:** Mr. Yogesh B. Dongare

**Duration:** 16/03/2023 To 24/03/2023

**Following topics are covered in the Module-II**

- Strings, Accessing Strings
- String properties, string built-in functions, string methods
- String conversions, comparisons



- Decision Control instructions, logical operators
- Conditional expressions
- Usage of while loop
- Usage of for loop

### **Module-III**

**Conducted by:** Mr. Nisar S. Shaikh

**Duration:** 25/03/2023 To 03/04/2023

**Following topics are covered in the Module-III**

- Lists, Accessing Lists
- Basic List Operations, List Methods
- Tuples, Accessing Tuples
- Basic Tuple Operations, Tuple Methods
- Sets, Accessing Sets
- Basic Sets Operations, Sets Methods
- Mathematical Set Operations

### **Module-IV**

**Conducted by:** Mr. Sanjay A. Agrawal

**Duration:** 10/04/2023 To 14/04/2023

**Following topics are covered in the Module-IV**

- Dictionaries, Accessing Dictionary Elements
- Looping in dictionaries
- Basic Dictionary operations, Dictionary built-in methods

### **Module-V**

**Conducted by:** Ms. Rucha A. Agrawal

**Duration:** 16/04/2023 To 20/04/2023

**Following topics are covered in the Module-V**



- Pandas Basics, Indexing and selecting data
- Merge and append, Grouping and summarizing data frame
- Data visualization toolkit
- Bar charts ,Scatter plots
- Count plots ,Line plots
- Histogram ,Pie charts
- Donut charts
- Plotting distribution across categories

**Program Outcomes:**

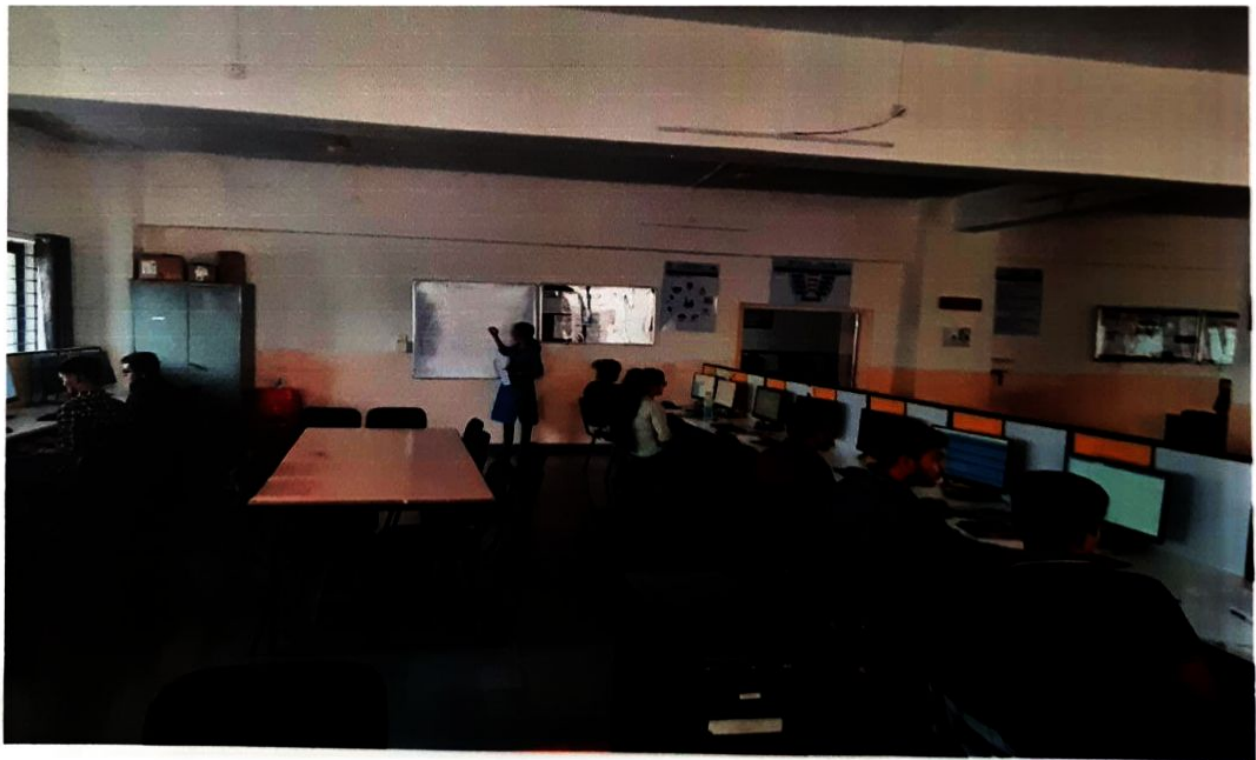
After completion of this Add-on course, Learner

- Implemented basic data types in Python.
- Implemented operators, how to clean and merge datasets.
- Implemented Pandas library, the main methods for DataFrames.
- Implemented visualization using Matplotlib
- Knew how to import data in Python.
- Used Jupyter Notebook/Google Colabs for data manipulation



**Session photos**





# Sample Certificate

