



# DATA SCIENCE

## Using Python

Course duration : 4 - 6 months

 **4.9**  
Google Rating

**Offline/Online  
Program**

**300 Hours  
of Live Classes**

**LMS Access**

**Internship  
Certificate**

**MASTER DATA SCIENCE**

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# Founder's Message

IT Shaala is a Leading IT Training Provider for Web Development & Software Development Courses in Pune. It is one of the best Online/Classroom Training Institute, which provides High-Quality Industry Level Training with Real Time Projects. IT Shaala is Institute which broadcasts IT training from basic to advanced technologies.

IT Shaala has specially designed Job Oriented Programme for "Freshers" and "Job Seekers". We provide training by Expert Trainers who are having 15+ years of industry experience, who guide the candidate with the best knowledge and work culture of most IT companies. The training would be accompanied by live project and placement support, which makes the candidates ready to be absorbed in the industry. Our Institute conjointly gives a chance within their educational programs to meet the needs with projected desires of quick developing networking trade.

“

**As you embark on your journey from student to professional, remember that every challenge is an opportunity to grow and excel.**

”



# About IT Shaala

## Aim

At IT Shaala, our aim is to empower individuals with the knowledge and skills needed to thrive in the fast-paced world of information technology. We strive to provide accessible and practical education that opens doors to new opportunities.



## Vision

Our vision at IT Shaala is to be a trusted leader in IT education, inspiring lifelong learning and driving positive change in individuals' lives. We envision a future where everyone has the chance to excel in the digital age, regardless of their background or circumstances.



## Mission

Our mission at IT Shaala is simple: to deliver high-quality IT training that transforms lives. We're dedicated to fostering a supportive and inclusive learning environment where students can grow personally and professionally, reaching their full potential in the world of technology.

# Scope in the industry



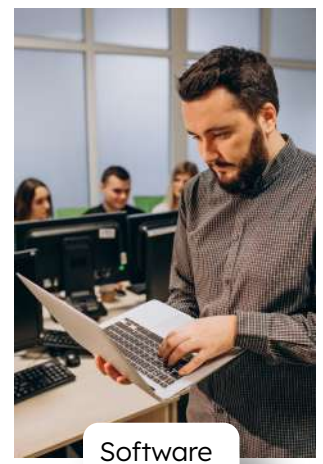
Python Developer



Data Scientist



SQL Developer



Software Trainee

# Course Syllabus

## Python

### 1. Introduction to Python

- a. What is Python?
- b. Where and how it is used?
- c. Why Python over others?
- d. Flavors of Python
- e. Version 3.x

### 2. Installation & Environment Setup

- a. Introduction to PYPi
- b. Introduction to Pep8
- c. Introduction to IDE
- d. (Jupyter-notebook/Pycharm)

### 3. Datatypes & it's methods

- a. numbers
  - i. int
  - ii. float
  - iii. complex
- b. string
- c. bool
- d. tuple
- e. list
- f. set
- g. dict

### 4. Program Flow Control

- a. Branching statements
  - i. if
  - ii. elif ladder
  - iii. else
- b. Loops
  - i. for
  - ii. while

### 5. Functions

- a. In built functions
- b. Function definition & function calls

- c. Positional Arguments

- d. Default Arguments Number of arguments

- e. Keyword arguments

- f. Anonymous function

### 6. Generators

- a. What is generator?

- b. Implementing generator

- c. Advantages of generator

### 7. Decorators

- a. What is decorators?

- b. Implementing Decorators

- c. Advantages of decorator

### 8. Modules & Packages

- a. What is a module?

- b. How to use Builtin modules?

- c. How to create user defined modules?

- d. How to use Third party modules?

### 9. Object Oriented Paradigms

- a. What is a class?

- b. What is an object?

- c. How to a create class & its objects??

- d. Pillars of OOP

- i. Encapsulation

- ii. Inheritance

- iii. Polymorphism

- iv. Abstratction

### 10. Exception Handling

- a. What is an error?

- b. What is an Exception?

- c. How to handle it?

### 11. File Handling

- a. Introduction to file system

- b. How to create a file?

- c. Different modes to create a file system
- d. Different formats of file system

## 12. Database

- a. Intro to database
- b. Advantages of database
- c. What is MySQL?
- d. What is SQL?
- e. Database connectivity in Python
- f. Performing CRUD operations

## 13. Logging

- a. Error logging
- b. Logging user activities

## 14. Regular Expressions

- a. Introduction to regular expressions
- b. Implementing RegEx

## 15. JSON

- a. What is JSON?
- b. Advantages of using JSON
- c. Implementing JSON

## 16. Cron Jobs

- a. Introduction to System Automation
- b. Setting up CRON Jobs

## 17. ORM (Object Relational Mapping)

- a. Introduction to ORM
- b. Advantages of using ORM
- c. Implementing ORM

## 18. Unit Testing

- a. What is unit Testing?
- b. Implementing unit testing

# Data Science

## 1. Introduction to Data Science

- a. What is Data Science
- b. What does data science involves
- c. Life cycle of Data Science
- d. Tools of Data Science

## 2. Python environment Setup and Essentials

- a. Introduction to python tools for Data Science
- b. Software installation

## 3. Mathematical Computing with Python (Numpy)

- a. Introduction to Numpy
- b. Introduction to numpy arrays
- c. How to Access Array Elements?
- d. Indexing, Slicing, Iteration, Indexing with Boolean Arrays
- e. Dealing with Flat files using numpy
- f. Mathematical functions
- g. Statistical functions (mean, median, average, standard deviation)
- h. Operations with arrays

## 4. Data Manipulation with Pandas

- a. Introduction to Pandas
- b. Defining data structures
- c. Understanding Dataframes
- d. Importing Data from various sources
- e. (Csv, txt, excel etc)
- f. Handling Missing valuesData Operations
- g. File read operations
- h. Descriptive statistics

## 5. Data Visualization using Matplotlib

- a. Create plots like scatter plot, histogram, bar graph, pie chart using Matplotlib
- b. Grids, axes, plots Markers, colour, fonts and styling.

## 6. Machine learning using scikit-learn

- a. Machine learning Process Life cycle
- b. Machine learning categories
- c. Feature selection and extraction in machine learning
- d. Supervised learning algorithms
- e. Regression
- f. Simple linear Regression
- g. Applications of linear regression
- h. Building regression models using python
- i. Process to implement linear regression
- j. Coefficient of determination (R- Squared)
- k. Accuracy of model
- l. Multiple linear Regression
- m. Classification
- n. Logistic Regression
- o. Building Logistic Regression Model
- p. Understanding standard model metrics
- q. Validation of Logistic Regression Models
- r. Standard Business Outputs
- s. Decision Tree
- t. Random Forest
- u. Support Vector Machines
- v. K – NN
- w. Naïve Bayes classifier
- x. Model evaluation techniques – concepts of confusion matrix,
- y. threshold evaluation with ROCR
- z. Unsupervised machine learning algorithms
- aa. K-Means Clustering
- bb. Hierarchical Clustering

## 7. Web Scraping in Python

- a. Parsing HTML and XML
- b. Navigating the document
- c. Handling CSV files
- d. Parsing JSON into Python

# Student Reviews

A testament to the power of determination, hard work, and dedication. Read what our alumni have to say about their experience with us.

## Komal Kale



The instructors at IT SHAALA are undoubtedly experts in their fields. They were not only knowledgeable but also adept at conveying complex concepts in a clear and understandable manner.



## Sandesh Dongardive



Great learning experience at ITshaala, ITshaala provides quality training and the best infrastructure. I got best guidance from Sandeep sir. IT shaala helped me to shape my carrier as IT professional.



## Kishor Pol



Had a fanstastic learning experience at IT Shaala, one of the top institute for Backend Developer training. The institute offers excellent training and top-notch infrastructure



## Pruthviraj Gaikwad



I have been taking classes for a month now and I am getting good knowledge here .Sandeep sir's teaching method is very nice, nonteaching staff is also supportive .If you want to get knowledge then this is the right place.





# Student Placements



**Vaibhav Kadam**  
FullStack Developer



**Pratik Gole**  
Software Engineer



**Kedar Thakur**  
Software Engineer



**Akshay Jadhav**  
Backend Developer



**Rohan Bhadke**  
FullStack Developer



**Avanti Urkude**  
FullStack Developer



**Vinay Divekar**  
Sr.Associate Developer



**Pratik Yawalkar**  
Software Developer

# Life at IT Shaala

"In the lifecycle of an IT student, each phase represents a stepping stone towards mastery. From the eager anticipation of enrollment to the relentless pursuit of knowledge, and finally, the triumphant transition into a successful career.



"Embark on the journey of IT education with enthusiasm, navigate through challenges with determination, and emerge as a skilled professional ready to make your mark in the digital landscape."



# IT Shaala

Address : Office No - 211, 2nd floor, Kakade Bizz Icon  
Shivajinagar, Pune - 15

For any query, Connect us at:

 +91 88620 64497       [info@itshaala.com](mailto:info@itshaala.com)

