Sripat Singh College
(Estd. 1949. Govt. Sponsored)
P.O.: Jiaganj • Dist. Murshidabad • West Bengal-742123
Phone: (03483) 255351, Tele Fax: (03483) 256961,
www.sripatsinghcollege.edu.in E-mail: sscollege2009@gmail.com

Date:

Department of Physics

7. Introduction to Python

In Collaboration with Internal Quality Assurance Cell, Sripat Singh College

Department of Physics

offers

Add on Course

on

INTRODUCTION TO PYTHON

Unleash Your Programming Skills with Python

Course Highlights:

- Basics of Python Programming Installing and setting up Python Environment
- Learning the basic syntax of Python
- Understanding conditional statements, loop structures, etc.
- fundamental data structures
- Python libraries: NumPy, pandas, matplotlib, etc.
- Functions and Modules in Python programming
- Problem solving using Python.

For details contact: 7679384830

Course Duration: 6 Weeks (36 hrs.)

Free Certificate Course

DR. KAMAL KRISHNA SARKA
Principal
Sripat Singh College
Jiaganj, Murshidabad

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Date:

Course Title: **Introduction to Python**

Programme Duration: 6 weeks (12 Sessions, 2 Sessions per week, each session lasting 3 hours, Total 36 hours)

Course Overview:

The **Introduction to Python** Add-on Course offered by the Department of Physics, Sripat Singh College is designed to provide participants with a solid foundation in Python programming language. Whether you're a beginner with no prior coding experience or have some experience with other languages, this course will equip you with the essential skills needed to start programming in Python. Through hands-on exercises, practical examples, and interactive sessions, participants will gain confidence in writing Python code and understanding fundamental programming concepts.

Course Objective:

- Introduce participants to the fundamentals of Python programming language.

- Teach basic syntax, data types, and control structures in Python.

- Familiarize participants with Python's built-in functions and libraries.

- Provide hands-on experience with coding exercises and projects.

- Prepare participants for further exploration of Python programming and related domains.

Course Outcome:

Upon successful completion of the Certificate Course in "Introduction to Python", participants will be able to

- understand Python syntax, basic data types (integers, floats, strings, booleans), and simple operations.

- use control flow structures such as if statements, loops (for and while loops), and nested conditionals to control program execution flow effectively.

- Work with fundamental data structures like lists, tuples, dictionaries, and sets, including their manipulation, iteration, and basic operations.

- define functions with parameters and return values, understand function scope, and utilize functions effectively to modularize their code and promote reusability.

- develop problem-solving skills by applying algorithmic techniques to solve basic programming challenges, including breaking down problems into smaller tasks, identifying patterns, and selecting appropriate data structures and algorithms.

- Finally, this course provides students with a solid foundation in Python programming, preparing them for further exploration of more advanced Python topics and applications.

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Course Layout

Week 1-2: Introduction to Python

- **Session 1**: Introduction to Programming and Python

    Installing Python and Setting Up Development Environment
- **Session 2:** Python Syntax and Basic Input/Output

    Variables
- **Session 3:** Data Types

    Operators
- **Session 4:** Conditional Statements and Control Flow

    Loops and Iterations

Week 3-4: Data Structures in Python

- **Session 5:** List and Tuples

    Dictionaries and Sets
- **Session 6:** Working with Strings

    List Comprehensions and Built-in Functions
- **Session 7:** Introduction to Functions and Scope
- **Session 8:** Function Parameters and Return Values

Week 5-6: Functions and Modules
- **Session 9:** Working with Modules and Packages
- **Session 10:** File Handling in Python
- **Session 11:** Introduction to Object-Oriented Programming (OOP) Concepts in Python
- **Session 12:** Review and Work

Assessment and Project:

- Weekly assignments and quizzes to assess understanding and progress.
- Final project where participants will apply learned concepts to solve real-world problems.
- Code reviews and feedback sessions to help participants improve their coding skills.

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Prerequisites:

- Basic computer literacy and familiarity with using a computer.
- No prior programming experience required.

Target Audience:

- Beginners interested in learning Python programming language.
- Students or professionals seeking to enhance their programming skills.
- Anyone interested in pursuing a career in data science, web development, or software engineering.

Methodology:

- Instructor-led sessions with hands-on coding exercises.
- Interactive discussions and Q&A sessions
- Collaborative learning environment.
- Access to online resources, tutorials, and documentation for further learning.

Certification:

- Certificate of Completion will be awarded upon successful participation and completion of the course requirements.

Conclusion:

The Introduction to Python Programming Add-on Course provides a comprehensive introduction to Python for beginners and those looking to strengthen their programming skills. By the end of the course, participants will have the knowledge and confidence to write Python code, work with data structures, and explore more advanced topics in Python Programming.

Resources:

- Recommended textbook: 1. Scientific Computing in Python. Abhijit Kar Gupta, Techno World, 2. Computational Physics, Mark Newman, Amazon Digital, 3. Python Programming, Satyanarayana, Radhika Mani, Jagdesh, Univerisity Press.

- Online Python editors and resources.

- Learning materials provided from department.

Note: The scheduled examination date is subject to change based on unforeseen circumstances or organizational requirements. Please stay informed through official channels for any updates or adiustments to the examination timetable.

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Principal
Sripat Singh College
Jiaganj, Murshidabad

Date:

Sample copy of completion certificate

Certificate Course
On
Introduction to Python
Organized by
Department of Physics
Sripat Singh College, Jiaganj, Murshidabad, West Bengal

This is to certify that _____
has successfully completed the certificate course "Introduction to Python"
organized by Department of Physics, Sripat Singh College from _____ to _____

Dr. Debi Prasad Dutta
Head
Department of Physics

Dr. Sagar Simlandi
Coordinator
IQAC

Asis Kumar Sen
TIC

DR. KAMAL KRISHNA SARKA
Principal
Sripat Singh College
Jiaganj, Murshidabad