

DEPARTMENT OF ECONOMICS  
UNIVERSITY OF DELHI

Subject:	Skilled-Based Course (SBC)
Sem.:	VIII
Course & Code:	Basics of Programming – 5.2
Duration (per week):	1 lectures + 2 Tutorial
Date & Time	11/12/2025 at 02:00 PM
Venue:	104, Department of Economics, Delhi University
Convenor:	Satyendra Gupta

College Teachers

Sonali Chadha (MAC)  
Divya Singh (St. Stephens)  
Akansha Jain (Dyal Singh (evening))  
Tanvi Meena (Dyal Singh (evening))  
Parul Nirvan (Dyal Singh (evening))  
Sharika G (Dyal Singh (evening))

The convenor welcomed all the members to the meetings.

Following points were discussed and agreed upon.

- Number of hours for the Unit I and II are 7 hours and 8 hours, respectively.
- Assessment (e.g. continuous assessment, internal assessment) will be as per university rules and guidelines.

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.

**Learning Objectives**

The Learning Objectives of this course are as follows:

- Develop and implement Python programs to perform data analysis and visualization.
- Apply fundamental statistical methods to interpret data and build basic predictive models using Python.

**Learning outcomes**

The Learning outcomes of this course are as follows:

- The students will be able to write basic codes in python.
- The students will be able to perform basic statistical analysis using python.

## **Syllabus**

### UNIT I: introduction to Python (07 hours)

Functions. Data Types. Input/Output. Iterations/Looping. Scientific Libraries. Data Visualization.

### UNIT II: Statistics (8 hours)

Diving into univariate and multivariate statistical methods. Simple Linear Regression. Estimation, hypothesis testing, and model selection.

### **Recommended readings**

- Matthes, Eric. Python crash course: A hands-on, project-based introduction to programming. no starch press, 2023.
- Ramalho, Luciano. "Fluent Python: Clear, concise, and effective programming." O'Reilly Media, Inc.", 2015.
- T. Sargent, J. Stachurski: QuantEcon.lectures-python3, <https://quantecon.org> (2018)
- Ewen Gallic. Python for economists, [https://egallic.fr/Enseignement/Python/en/\\_main.pdf](https://egallic.fr/Enseignement/Python/en/_main.pdf) (2019)
- Python for econometrics in economics, <https://pyecon.org>

### **Practical Activities**

Using programming languages) to clean data and implement statistical and econometric estimation via controls and scientific libraries (30 hours)