



MINI-SCHOOL

NITheCS

National Institute for  
Theoretical and Computational Sciences

# Programming Basics with Python

Dr Sunday Oladejo (Stellenbosch University)

*Attend four online lectures:*

Wednesday, 4, 11, 18 & 25 February 2026 | 14h00-15h00 SAST

This four-week Mini-school introduces fundamental programming concepts using one of the most widely adopted and beginner-friendly languages in science and industry. The course is designed for participants with little or no prior coding experience and aims to build confidence in writing simple, effective Python programmes.

By the end of the programme, participants will have developed a strong foundation in Python programming and will be equipped to pursue further studies or applications in computational science, data analysis, and research workflows.

**NOTE:** Attendees must have an accessible Gmail account, as we will be using the Google Colab environment for the Mini-school.

## LECTURES:

### Lecture 1: Getting Started and Basics

This lecture introduces the Python environment, basic syntax, variables, and data types.

### Lecture 2: Control Flow (Decisions) and Strings

Lecture 2 explores essential control flow structures such as conditional statements, alongside working with strings for text manipulation.

### Lecture 3: Loops and Lists

Participants will learn how to automate tasks through loops and organise collections of data using lists.

### Lecture 4: Functions and Mini Project

Session 4 focuses on defining reusable functions and applying acquired skills in a guided mini-project that reinforces key programming principles.

## BIOGRAPHY



Dr Sunday Oladejo is a Lecturer in the School for Data Science and Computational Thinking at Stellenbosch University, where he contributes to teaching and research in computational thinking and data-driven methodologies. He holds a PhD in Electrical Engineering from the University of Cape Town, as well as an M.Eng in Telecommunication Engineering and a B.Eng in Electrical Engineering.

Dr Oladejo's research spans optimisation algorithms, machine learning, and computational modelling, with numerous publications in scientific journals and conference proceedings. His work includes studies on metaheuristic optimisation, data sharing frameworks for public health, and efficient computational approaches for complex systems.

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