

Workshop

Python for Beginners

Organizational details

Instructor:	Dr Denis Düsseldorf
Dates:	April 2 – 4, 2025, 10.00 am – 5.00 pm
Location:	Licher Str. 68, Room 001, 35394 Giessen
ECTS:	3
Max. number of participants :	15

Objectives

In this 3-day workshop, you will learn the basics of programming in Python from scratch. Python is an interpreted programming language that allows programmers to quickly write readable code. You will learn the most important concepts related to programming and develop the skills to understand the syntax of Python programs. By the end of the workshop, you will be able to write Python code for your own simple applications. You will understand the strengths and flexibility of writing your own programs for certain tasks (instead of using existing third-party software) and know how to create professional plots from your own research data. This course also provides the basis for the follow-up course 'Python for Data Science'.

Content & Methods

Programming is an extremely useful tool, but it is also a lifelong journey that requires an understanding of various key concepts. In this workshop, we employ an interactive learning process: short blocks of theory alternate with practical sessions so that you can best process and immediately start using newly learned concepts.

The key fundamental concepts of programming in Python, which will be covered in this workshop, include:

- Variables and objects
- Data types
- Input and output
- Expressions and Assignments
- Operators
- Control Structures

- Functions
- Methods and classes
- Modularization of code
- Introduction to handling scientific data and plotting using “NumPy” and “Matplotlib”

Target group & Course Language

This workshop targets PhD students and postdocs who want to learn the basics of programming in Python. To fully benefit from the workshop, please bring a laptop (along with a charger) and ensure that your internet connection is working on campus (e.g., using eduroam).

Whether you are a complete newbie to programming or have already had some experience with Python or another programming language, I look forward to you joining the workshop!

Course language: English (Please note: As this is not an English language course, proficiency in English at the C1 level of competency is required).

Requirements for ECTS credits

In order to receive the ECTS credits for this course, participants should attend the course at all times and try to actively engage. At the end of the course, participants will be asked to fill out a form answering several conceptual questions.

About the instructor

Dr. Denis Düsseldorf earned his doctoral degree in Numerical Mathematics from the University of Bonn in 2024 and holds a certification as a 'Data Scientist Specialized in Machine Data Analytics' from the Fraunhofer Research Institute. He is passionate about teaching programming and mathematical topics to current and aspiring researchers to help them solve practical problems they face in their research.

Registration

If you would like to attend the event, please register by **24 March 2025** by sending an email to info@ggs.uni-giessen.de.