

Object-Oriented Programming and Data Processing with Python

In cooperation with the GRADE Center Language

Trainer



Dr. Anke Himmelreich

Goethe University, Frankfurt

Anke Himmelreich is a theoretical syntactician known for her expertise in linguistics and computer science. She earned her Master's degree in Linguistics and Computer Science from Leipzig University in 2010, showcasing a strong foundation in both disciplines.

Anke further solidified her academic standing by obtaining a Ph.D. in Linguistics from Leipzig University in 2017.

Her research interests span across syntax, the syntax-morphology interface, and the innovative application of experimental and data methods.

Objective

The workshop's goal is to ensure participants have a solid grasp of the fundamentals of object-oriented programming (OOP). Through hands-on walkthroughs and exercises, attendees will gain practical experience, enabling them to effectively apply OOP concepts in practical situations such as corpus search or experimental design. Additionally the workshop will guide them to become more self-sufficient in writing their own code and troubleshooting.

Description

In the first part of this course we will look into the basics of object-oriented programming (OOP), which has been the standard programming paradigm since the mid 90s and is a must to understand for everybody who is interested in programming. The course will offer walk-throughs of basic and more advanced examples for OOP interspersed with practical exercises in class. The goal is to be able to apply the core concepts of OOP by the end of Day 1 of the course.

The second part will offer a more practical overview of data processing with Python. We will specifically take a closer look at the library Pandas and walk through typical cases of data processing, including data manipulation and data analysis. The second part will also provide a guide to reading online documentation and applying the information to your own projects. We will look at how ChatGPT can be used as a tool in programming and how code bits written by AI can be included in your own project. The goal should be to become more self-sufficient in programming.

Conditions

Content Requirements

The course is meant for an audience who already has a core understanding and sufficient experience with basic programming skills: variable assignment, data types, boolean expressions, if-else statements, while- and for-loops, and functions. These skills do not need to come from Python. People with sufficient programming experience will pick up the Python syntax quickly if they don't know it yet.

Technical Requirements

We will do all practical demonstrations and exercises with the Python IDE PyCharm. The latest version of Python and PyCharm must be installed before the class begins. The community version of PyCharm is sufficient. Participants must bring their own laptops to work on.



Organizational Information

Language / Format	English / On campus
Target group	Doctoral Candidates at all stages and Postdocs (R2/R3) from the Humanities and Social Sciences
Date	Friday, 26 April 2024, 10:00 – 16:00 Friday, 3 May 2024; 10:00 – 14:00
Registration	Previous registration is required. To register, please write an e-mail to grade-language@em.uni-frankfurt.de , by April 15, 2024, at the latest. Members of the GRADE Center Language will be given priority.