UNIVERSITÄT
BERN

Vizerektorat Entwicklung

Introduction to Python programming and data analysis and visualization

Content	This course is an introduction to programming and data science using the programming language Python. **It is specifically aimed at people with no prior programming experience** and no background in statistics is required. The course is structured into two parts: During the first three sessions the key concepts of Python programming are introduced, and you learn writing simple programs. The second part introduces relevant python frameworks for data science (NumPy, pandas, Matplotlib, SciPy) and you work on a small project analyzing and visualizing your own data set. Statistical tests and concepts are not discussed, only Python libraries which implement them. This course is an introduction for beginners. For people experienced in Matlab or R it's a good opportunity to broaden their skillset, but not recommended for people with Python programming experience. The course uses the flipped classroom method, the participants study new concepts between sessions and discuss and apply them in class.
Learning Objectives	After the workshop you understand and can use the core concepts of programming in Python, can solve simple programming problems on your own and apply these tools to analyze and visualize your own data sets. This includes plotting your data set and computing some statistical measures. But most importantly: You know where to start and how to deepen and broaden your programming skills from there on.
Individual Feedback	The participant will receive personal support by the trainer during the course.
Trainer:	Niclas Scheuing, M.Sc. Computer Science ETHZ, University of Bern Noah Kleinschmidt, M.Sc. Bioinformatics and Computational Biology, University of Bern
Target Group:	PhD students and postdocs of all fields of research
Nr of Participants	17
Requirements	Python installed
Preparation task	Tbd, estimated workload 2-3h, between each session homework of 2-3h and reading of 2-3h workload will be assigned.
Dates	September 12, 19, 26 & October 3, 10, 17, 2023. 09:15 a.m.-12 p.m., except Oct 3 & 17: 2:15 p.m.-5 p.m.
Location	University of Bern, Hochschulstrasse 4, room 104 (1. session), 117 (2.-6. session)
ECTS	2 recommended (18 h in class, ca. 36 h preparation and homework)

Vice-Rectorate Development
Transferable Skills
Hochschulstrasse 6
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