

Course syllabus of RSE lecture, labs and assignments at the University of Potsdam

Week	Lab (Tuesday)	Lecture (Thursday)	Assignments
1	<i>(no labs)</i>	Introduction, Organization	Get set up, select dataset for first project
2	Python recap, Shell basics	Writing readable code, code documentation	Improve Zipf code, plan data analysis
3	Git basics, More Shell	Markdown, Jupyter Notebooks, Computational Narratives	Implement data analysis as computational narrative in Jupyter Notebook
4	Project support	Project structure, metainformation, licenses, software citation, FAIR	Add additional project information
5	Project support	<i>Ascension Day</i>	Submission of first project
6	Advanced Git	<i>(no lecture)</i>	<i>(no assignment)</i>
7	<i>(no labs)</i>	Working in Teams	Building teams for second project
8	Building Command-Line Tools with Python	Software Life Cycle (Requirements, Architectures, Design)	Select topic for second project, discuss requirements and architecture
9	Project support	Software Life Cycle II (Testing and Error Handling)	Implement and test required tools
10	Project support	Software Life Cycle III (Configuration and Packaging)	Improve and finalize tools
11	Project support	Data Analysis Workflows with Make and Snakemake	Implement workflow with Snakemake
12	Project support	CI/CD Pipelines	Revise and improve project
13	Project support	Automated Composition of Workflows	Finalize project
14	Project support	<i>(no lecture)</i>	Submission of second project
15	Final Q&A	Project presentations	