

Agenda, Python Advanced Course

Day	Topics
DAY1	1. Arbeitsumgebungen: - ipython - ipython notebook (jupyter notebook) - spyder 2. Problems with copying mutable data structures 3. Recursive Functions and runtime problems 4. Memoization 5. * and ** in parameter passing 6. Decorators 7. Context Managers 8. Modular Programming and Modules
DAY2	9. Lambda Operator, Filter, Reduce and Map 10. List Comprehension 11. sort and sorted with custom made sort criteria 12. Iterators and Generators 13. Exception Handling 14. Optional: Extending Python with C and C++ modules 15. Object Oriented Programming 15.1. Introduction 15.2. Class and Instance Attributes 15.3. Data Abstraction using getters and setters 15.4. Properties 15.5. Inheritance 15.6. Multiple Inheritance

	15.7. Magic Methods and Operator Overloading
DAY3	16. Object Oriented Programming, Continuation 16.1. Multiple Inheritance 16.2. Metaclasses 16.3. Slots 17. NumPy and SciPy 18. Matplotlib 19. Pandas 20. Machine Learning - k-nearest neighbour - Neural Networks from Scratch - Machine Learning with Scikit - Naive Bayes Classifier - Text Classification with Naive Bayes 21. Embedding and Extending Python with C and C++ modules with SWIG