

## Agenda, Python Advanced Course

Day	Topics
<b>DAY1</b>	<ol style="list-style-type: none"> <li>1. Problems with copying mutable data structures</li> <li>2. Recursive Functions and runtime problems</li> <li>3. Memoization</li> <li>4. * and ** in parameter passing</li> <li>5. Decorators</li> <li>6. Context Managers</li> <li>7. Modular Programming and Modules</li> <li>8. Using Regular Expressions and their usage in Python</li> </ol>
<b>DAY2</b>	<ol style="list-style-type: none"> <li>9. Lambda Operator, Filter, Reduce and Map</li> <li>10. List Comprehension</li> <li>11. sort and sorted with custom made sort criteria</li> <li>12. Iterators and Generators</li> <li>13. Exception Handling</li> <li>14. Optional: Extending Python with C and C++ modules</li> <li>15. Object Oriented Programming               <ol style="list-style-type: none"> <li>15.1. Introduction</li> <li>15.2. Class and Instance Attributes</li> <li>15.3. Data Abstraction using getters and setters</li> <li>15.4. Properties</li> <li>15.5. Inheritance</li> </ol> </li> </ol>
<b>DAY3</b>	<ol style="list-style-type: none"> <li>16. Object Oriented Programming (continuation)           <ol style="list-style-type: none"> <li>16.1. Multiple Inheritance</li> </ol> </li> </ol>

16.2. Magic Methods and Operator Overloading

16.3. Multiple Inheritance

16.4. Metaclasses

17. NumPy and SciPy

18. Matplotlib

19. Pandas