~37 Hours Total (24 x 1.5h class +1 x 1h class)

**Basics of Python (6 Lessons)**

1. Getting Environment Started, Hello World! PIP and Commands

2. Python Syntax, Variables, and Data Types

3. Casting, Operators, Sequences

4. Statements and Loops

5. Functions, Lambda

6. Inheritance, Scope, and Modules

**Numpy Pandas Library for Data Processing (5 Lessons)**

1. Numpy Basics, Defining Arrays, Indexing, Read from file
2. Array Indexing, Reshaping, Slicing, Join, Split
3. Pandas Definition, Indexing, Read from file
4. Pandas Search, Join, Split, Rearrange
5. Exercise/ Refining the knowledge (MCDM)

Holiday 1 week

**Library for Plotting Data (4 lessons)**

1. Line plot, subplot, bar chart, markers

2. Histograms, Piechart

3. Sparse Data Plots, Multi-dimensional data plots

4. Graph and Network Plots

**Optimization (5 lessons)**

1. Basics of optimization

2. Simple Optimization Algorithms

3. Scipy Classical Optimization

4. Combinatorial Optimization Libraries

5. Population-based methods and metaheuristics

**Machine learning (4 lessons)**

1. Pre-processing methods

2. Statistical machine learning methods

3. Classical machine learning methods

4. Neural networks and its optimization