**PhD Physics course at Bari University (XXXIV Cycle)**

|  |  |
| --- | --- |
| **Title** | Programming with Python for Data Science |
| **Proponent** | Dott. Domenico Diacono |
| **# CFU**  **(1 CFU = 8 hours)** | 3 |
| **Schedule** |  |
| **Brief Summary of the course** | This entry level course doesn’t require a previous Python knowledge. It contains an introduction to Python fundamentals, and to the most used Python structures for procedural and object oriented programming.  A special attention will be given to the libraries that are required for a successful data analysis: NumPy, Pandas, Matplotlib, Seaborn. The course will be held in Italian, the material will be in English. |
| **Programme** | -Python installation: Anaconda  -Built in types, list and dictionaries  -Conditionals, Loops and comprehensions  -Definition of function and modules  -Scripts, interaction with files, Error trapping  -Modules and namespaces  -Numpy  -Pandas  -Matplotlib / seaborn  -How to use the data libraries: an example of machine learning  -Exercises |
| **Recommended texts** | **Imparare Python,** Mark Lutz, O'Reilly |
| **Assessment methods** | Multiple choice test, class interaction |