

Python for Scientific Computations – Tutorials Syllabus

- 1) Lesson 1 - Introduction to Python
- 2) Lesson 2 - Definition of Function Blocks
- 3) Lesson 3 - Definition of Classes and Basics to Object Oriented Programming with Python
- 4) Lesson 4 - Further programming tasks with Functions and Classes
 - Solution to ODE's with Numpy/Scipy
 - Control loop simulation with Scipy (Simulation of Transfer Functions + PI Controller)
- 5) Lesson 5 - Graphical User Interface (GUI) Design with wxPython – Introduction
- 6) Lesson 6 - Graphical User Interface (GUI) Design – Menus and Tabs
- 7) Lesson 7 - Basics in Image Processing Techniques with Python OpenCV module
 - Translation, Rotation and Scaling of an Image
 - Sobel Filtering & Matching Template Algorithm
- 8) Lesson 8 - Introduction to Programming with Raspberry Pi – RPi.GPIO for Sensor Measurement
- 9) Lesson 9 - Introduction to Labjack Python with Raspberry Pi
- 10) Lesson 10 - Labjack Python with Windows and LabJack Data Logger Application