

Fall 2016 Python Training

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Who Are We?

- Carlos A. Cruz (Computational Scientist, Occasional Python User)
- Jules Kouatchou (Computational Scientist, Occasional Python User)
- E. Brent Smith (Programmer and Scientist, Daily Python User)

Training Objectives

We want to:

- 1 Introduce the basic concepts of Python programming
- 2 Create functions and modules
- 3 Manipulate Python objects (list, tuple, arrays, etc.)
- 4 Handle files
- 5 Do plotting

What we will Cover

- 1 Core principles of Python: Day 1
- 2 Data manipulation with Python: Day 2

Target Audience

Python User	Day 1	Day 2
Beginner	X	X
Intermediate		X

What We Expect from You

- Have your own laptop.
- Install on your system a Python distribution (such as Anaconda) that should at least have iPython, Numpy, Matplotlib.
- Install the package Git
- Be able to create/edit files on your platform
- Do the examples yourself as we move along
- Ask questions

Obtaining the Materials

You can obtain all the materials by issuing the command:

```
git clone https://github.com/JulesKouatchou/LRC_Fall16
```

You will then get on your platform the directory LRC_Fall16.

Note: Windows users without Git, you can download a Zip file online at the url above.

Beyond the Agenda

There are few topics that will not be covered but are worth looking at. Presentations were prepared on:






- 1 Strings
- 2 The *xlrd* Module
- 3 F2Py

Informal Self-Assessment

At the end of Day 1, you might consider taking a 25-question test at:

<http://www.afterhoursprogramming.com/tests/practice/Python/>

Useful Pointers I

-  Python Programming - Introduction
<http://www.youtube.com/watch?v=72RKMMYLxS8>
-  A Hands-On Introduction to Python for Beginning Programmers
https://www.youtube.com/watch?v=rkx5_MRAV3A
-  A Beginner's Python Tutorial
<http://www.sthurlow.com/python/>
-  Invent with Python
<http://inventwithpython.com/chapters/>
-  Think Python: How to Think Like a Computer Scientist
<http://greenteapress.com/thinkpython/html/index.html>

Useful Pointers II



Hans Petter Langtangen.

A Primer on Scientific Programming with Python.
Springer, 2009.



Johnny Wei-Bing Lin.

A Hands-On Introduction to Using Python in the Atmospheric and Oceanic Sciences.
<http://www.johnny-lin.com/pyintro>, 2012.



Drew McCormack.

Scientific Scripting with Python.
2009.

General Resources

- Official Website
<http://python.org>
- Official Documentation (Python 2.x)
<http://docs.python.org/2/>
- Quick Reference
<http://learnxinyminutes.com/docs/python/>
- PyVideo
<http://pyvideo.org>
- PyCon 2017
<http://us.pycon.org/2017/about/>
- Python Software Foundation
<http://www.python.org/psf-landing/>