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. Datetime Module
2. 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/