



Python Academy Curriculum

Length: 2 months (8 weeks)

Class Structure: class is divided into 2 alternating parts: class tutorial time and group build time.

Group FB Page (for class updates): (<https://www.facebook.com/events/994731107264472/>)

Slack URL: <http://www.bcpythonacademy.slack.com>

Class Summary :

Instructor Name: Tai Wexler Kersten

Hello World and welcome to the BitCoin Center Python Academy class. This class is meant as a quick intro to the python programming language aimed at getting an absolute beginner into building things. There may be some discussion about bitcoin as well.

Pre-requisites:

The Python Academy requires that you bring your own laptop and have a basic understanding of certain components of a computer operating system (windows, linux, MacOS, etc.) including how to navigate files, create new files, and how to install applications. We will be doing a bit of work in the command line (terminal) of the computer so we highly recommend you take a glance at a tutorial on how to use the terminal on your operating system of choice.

As a start, google: "How to use the terminal on {/insert operating system name here/}"

Timeline :

Class starts on March 20th 2016 and will occur every Sunday @ 2pm for 8 weeks and attendees will be expected to do some small homework assignments to practice and expand on class lessons.

Classroom meetings will begin each Sunday at 2pm and will last until everyone goes home. The actual class parts will probably last until about 8pm but students are welcome to stay in the Bitcoin center and work on any projects/homework with the instructor. Likewise, each week there will be an online class taught in either a skype group room or inside a slack (<http://www.slack.com>) chat room.

Unit 1: Basic Python Operations

Week 1: [Intro] Hello World and basic operators/primitives

This week we work on how to print from the standard I/O stream and build some basic scripts to illustrate some of the basic concepts in Python such as types, basic data structures, and loops.

Online 1: Getting around your computer.

Week 2:[Intro 2] More Data structures, calculator and User Input

During Week 2 we delve into using functions and classes to surround our functions. We also start getting into object methods and advanced loops to really exploit the power of Python types and recursion. User input will be covered as well.

Online 2: Python object methods and introspection

Week 3: [Final Intro and build] Choose your own adventure story

Week 3 is the last class of intro and review where we will spend most of the class building small programs and actually solving problems. We will begin working on a choose your own adventure story with user input.

Online 3: Inheritance and OOP principles.

Unit 2: Automation

Week 4: [Productivity] Automation and files; os, sys libraries.

Python tools! We will move into importing libraries and getting methods from objects to automate computer tasks. We will also be installing pip and learning more about the python environment.

Online 4: TBA

Optional Online: quick intro to git

Week 5: [Productivity] Editing: csv's, pdfs, json; api intro

Week 5 will be based around creating and processing bulk files while using some common Python design patterns in useful ways. We also do a quick intro to pulling down information from json and decoding it into python.

Unit 3: Web

The rest of the class is focused on internet and Django.

Week 6: [Productivity/Fun] Web Scraping

Online Tutorial Build: How to build a bitcoin price tracker

Week 7: [Final Project] Django Day 1 – Intro and tutorial

Online supplement 1: How to attach CSS to your website

Online supplement 2: One way to deploy online on a wsgi.

Week 8: [Final Project] Django Day 2 – review and final project

Each class begins with a brief introduction of a program we will be building along with some tutorial work. Most classes will have two parts:

Lecture and tutorial:

This will be a quick rundown of what the build is and going over the pieces of each one.

Build:

Here the students are given an objective and must use the lecture info and notes to put together a small build.

Likewise, each class will be accompanied by a handful of worksheets and homework builds for students to work on. At the beginning, each student will write down a quick summary of an app or project they want to build and the instructor will help in getting their projects off the ground.

Social Tools

We will sign everyone up at the end of class on the first day.

A very big part of programming is practice and people, and we hope to build a social group that discusses coding, coders, and the issues surrounding the field. Each week there will be at least 1 online class teaching some small portion of programming or python on either Slack

or Skype. Similarly, the Python Academy will be launching a forum appliance where students can begin threads to record, store, and question their progress as the class goes on. This will include porting applications to python 3, basic git commands, and how to navigate the terminal.

Since the class is also going to be moving quite fast, the social media tools will be where most questions will need to be asked and discussions had. That said, there will be a handful of outside instructors occasionally sticking their heads in to offer guidance and tips.