

Cyber Defense Organization

Fall 2020 - Python



Attendance

<https://forms.gle/hrQfSqmqHPMkAD2S7>

Disclaimer:

I am not a computer science student, so I have a very rudimentary understanding of the actual theory behind computer science and programming!

I merely understand some of the applications and uses of python and I am attempting to explain from my understanding.

What is Python?

Python is a high level, multi use programming language.

Python is extremely versatile and can be used for countless applications.

Python is an object oriented language.



**What is an
object oriented
language?**

Object oriented languages

Object oriented languages have objects.

These objects can have properties and functions.

These objects will contain data and code: data in the form of fields (properties) and code in the form of procedures (methods)

In English:

There are “things” that have properties

They can have a multiple properties and can have multiple behaviors

Using object-oriented languages allow us to have a much more versatile and modular approach to the way we write programs

Why Python?

Why Python...

1. Python is pretty easy to learn if you've ever done any other form of programming (Object oriented languages are easy to pick up if you know how they work, i.e. moving from java to python)
2. The library system means there is tons of pre-built tools already out there, so there is no need to reinvent the wheel or rebuild anything that has been built before
3. There are tons of *free* online resources to continue developing of your skills

Modularity!

More about libraries

Libraries themselves are *extremely* powerful.

You can do many different tasks with default python, however the possibilities with libraries are on a whole new level.

Libraries can offer tools for automation, prediction, and even things such as neural networks!

```
import sys
```

```
import requests
```

```
import socket
```

```
import json
```

```
import time
```

```
import random
```

```
import turtle
```

What Can We Do With Python?

Tons of stuff, but python is mainly used for the following three things:

- Web development (Django)
- Data science applications (Machine learning!)
- Scripting and/or automation

More or less the only limit to what you can do is your own technical ceiling.

We are going to focus on scripting and automation.

**What are some
cybersecurity
applications of
python?**

Cool things in python

- Web crawlers/scrapers
- Port scanners
- Keyloggers
- Hash cracking
- Rudimentary encryption
- And so much more!

Don't pigeonhole yourself!

The projects that aren't related to cybersecurity (or whatever it is that interests you) may teach you more than you think they will!

Explore, try new and different things!

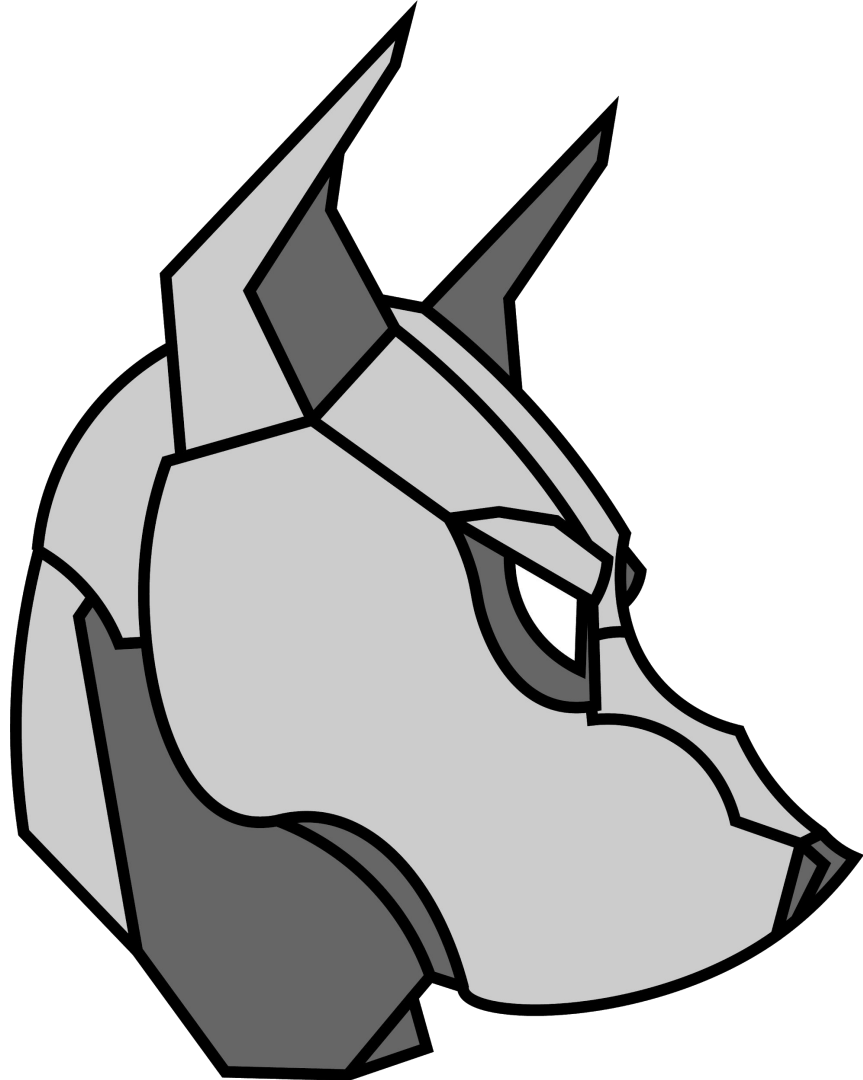
Coming up next week!

Tuesday: Blue Team Practice @ 7pm

Wednesday: Security + @ 5pm

Thursday: Red Team Practice @ 7:30pm

Friday: Workshop @ 3:30pm



Add us on Social Media!

Twitter: **@ualbanyCDO**



Instagram: **ualbany_cdo**



Myinvolvement: **Cyber Defense Org**

Twitch: **UACyberDef**

We have a discord!

(discord is for UAlbany Students only)

