**Code Louisville - January 2021**

**Data Science with Python (Python2) Syllabus**

## **Summary of Requirements for Completion of Code Louisville**

The following is a list of the requirements for successfully completing Code Louisville.

1. **Complete Two and a half of the Five courses in the Coursera Track**

The course material is available by freely auditing the first 3 classes in the **Applied Data Science with Python Specialization** (<https://www.coursera.org/specializations/data-science-python>)

While assignments will often follow the Coursera suggestions, they will be pushed to Github rather than submitted to Coursera. This will be discussed in class. **You should complete the Coursera courses by your meetup day**, as the topics covered may be discussed by your mentors. You do not need to pay for anything on Coursera - all the material can be accessed for free. However, you may choose to purchase a subscription if you’d like to complete the full course and earn the certificate they provide.

**Auditing Coursera**

[Here is a quick guide on how to Audit courses in Coursera](https://docs.google.com/document/d/1_aozeUSjAnu-RV51A8SKwX0t284FhaGJ6yAHxdQxq58/edit?usp=sharing)

**Additional Resource:**

This free data science handbook is an excellent resource and covers many of the same concepts: <https://jakevdp.github.io/PythonDataScienceHandbook/>

1. **Complete a portfolio project**

This project must be completed by **Friday, April 2nd at noon** and must fulfill every requirement listed in the Project Requirements document. The project requirements and other Code Louisville information can be found on the [Student Resources Wiki](https://sites.google.com/codelouisville.org/code-louisville-wiki/class-info/project-requirements). You should show your project to a mentor well before the due date to ensure requirements are properly met. A link will be sent out via Slack in the last two weeks of class. **You will ‘turn-in’ your project by completing that survey and providing your GitHub link** **to your project in the last week of class**.

1. **Attend a minimum of 2 tech events**

Check [LouisvilleTech.org](http://louisvilletech.org/) and the #tech-events channel in Code Louisville Slack for a list of eligible events or check with Code Louisville staff if another event you’re interested in isn’t listed. [**To submit your events, complete this form**](https://forms.gle/WrHcpBx3k95oLpfL8)

To count as a tech event, the focus of the event needs to either a) build your technical skill set or b) let you network with local tech professionals. If there is an event you are interested in, but are not sure if it meets either of these criteria, please reach out to Emily on Slack @ Emily Sullivan  
  
While they cover valuable information, events focused on impostor syndrome, job readiness, or “ask a recruiter/hiring manager” events, will not count towards your two tech events. We still encourage you to attend these events for your own benefit.

*During the COVID-19 pandemic, virtual/remote/online events are allowed.*

1. **Attend your weekly meetups (class)**

You are highly encouraged to attend every single week, but **more than 3 absences** will result in being removed from the program. You must stay for the duration of class, leaving early may result in an absence. An option to switch nights and attend class a different day of the week may be available as well. Attendance will be taken virtually through Zoom - it is your responsibility to ensure your attendance is counted.

**Additional Program Info and Policies**

Students can find program policies, links to the syllabus, project requirements, and other student resources at our Code Louisville wiki site. [**https://sites.google.com/codelouisville.org/code-louisville-wiki/program-info/policies**](https://sites.google.com/codelouisville.org/code-louisville-wiki/program-info/policies)

**Class Expectations**

Weekly class meetups are offered online on the night selected prior to orientation. These meetups will be held via Zoom and a link for your specific class night will be provided in a separate email and over Slack.

Zoom requires you to have a laptop or desktop computer. Chromebooks and Tablets usually will work as well. A microphone and camera are needed to communicate with your mentors and classmates. You will also need a stable internet connection. You are expected to be on camera and to engage with the mentors and other students. Come prepared with questions about the Coursera assignments, your project, etc.

Class is **not** a lecture where you watch/listen for 2 hours. There will be some activities and presentations, but each week you are expected to bring questions and work on your projects during class time. Mentors - who are all *volunteer* software development professionals - will be available to answer questions and guide you on your projects.

**Additional Resources**

If you have a barrier that prevents you from being able to participate in or succeed in your class, please let us know. We have connections with Kentuckiana Works (our parent organization) and with other organizations that may be able to help you by providing supportive services. We are here to help you succeed, so please reach out to us.

**Code of Conduct**

All students and mentors are expected to conform to the Code of Conduct (on Zoom and Slack), which can be found here: <https://docs.google.com/document/d/1ZIVRab0JpicfOgCNgoCAZySz71VP2g8p91R8jPMhN8s/edit?usp=sharing>.

**Zoom Link**

The link below is for when it’s time for your class. Please join prior to 6pm as the mentors will begin right around 6:00. Attendance will be taken, so we ask that you use your real name for your Zoom login name to assist with this. The below link will become active a few minutes before 6pm.

**Use this link to join your class:**

<https://us02web.zoom.us/j/82069133527?pwd=WXJ6VXVpM25KWjl4TmJFN3ZjUFdzZz09>

Meeting ID: 820 6913 3527

Password: 190657

The above link **should** automatically log you in. However, if prompted, you may need to enter the Meeting ID and Password.

*If you have not used Zoom before, you can go to this URL and test that your camera and microphone work:* [*https://zoom.us/test*](https://zoom.us/test) *. A camera and mic is not required for orientation, but it will be required for class nights.*

**Weekly Schedule**

|  |  |  |
| --- | --- | --- |
| **Week** | **Dates** | **Coursera Assignments (try and complete by day of class that week)** |
| 0 | 1/6 | No class meetups, but Coursera is assigned!  Review Python using Week 1 materials from **Introduction to Data Science in Python**. |
| First Coursera videos are assigned. **Look at each week below to see what you should have completed by class time.** | | |
| 1 | 1/13 | Course Material:   * 3 videos from Week 1 of Introduction to Data Science in Python (“Advanced Python Objects, map()”, “Advanced Python Lambda and List Comprehensions”, “Numerical Python Library (Numpy)” * All content from Week 2 of Introduction to Data Science in Python: Basic Data Processing in Python |
| Assignment:   * Set up GH repo with two folders project and hw   In class: Discuss Git and Github | | |
| 2 | 1/20 | * All content from Week 3 of Introduction to Data Science in Python: More Data Processing with Pandas |
| **\*\*\*NO CLASS ON MONDAY\*\*\* There will be no classes on Monday due to the MLK Day holiday. Coursera is still assigned. Any missed classroom content will be covered next week. This class will meet as-scheduled.**  Assignment:   * Choose a research question and an initial dataset to work with. Post these on github in a Jupyter notebook that will eventually become your final project. * Coursera Assignment 3 delayed until next week | | |
| 3 | 1/27 |  |
| Assignment:   * Assignment corresponding to course material * Assignment 3 Due in class (pushed back from previous week) | | |
| 4 | 2/3 | Course Material:  All content from Week 4 of Introduction to Data Science in Python: Answering Questions with Messy Data |
| Assignment:   * Assignment 4 | | |
| 5 | 2/10 | Course Material:   * All content from Week 1 of Applied Plotting, Charting & Data Representation in Python: Principles of Information Visualization |
| Assignment:   * Assignment 5   Don’t forget to attend your two networking/tech events. The form to submit them is on the first page of the syllabus | | |
| 6 | 2/17 | Course Material:   * All content from Week 2 of Applied Plotting, Charting & Data Representation in Python: Basic Charting |
| Assignment:   * Assignment corresponding to course material   You should have started your project by now and be incorporating some of the things learned in Coursera into it | | |
| 7 | 2/24 | Course Material:   * All content from Week 3 of Applied Plotting, Charting & Data Representation in Python: Charting Fundamentals |
| Assignment:   * Research question and visuals. This assignment is basically the first half of your final project. | | |
| 8 | 3/3 | Course Material:   * All content from Week 4 of Applied Plotting, Charting & Data Representation in Python: Applied Visualizations |
| Assignment:   * Assignment corresponding to course material | | |
| 9 | 3/10 | Course Material:   * All content from Week 1 of Applied Machine Learning in Python: Fundamentals of Machine Learning - Intro to SciKit Learn |
|  | | |
| 10 | 3/17 | Course Material:   * Most content from Week 2 of Applied Machine Learning in Python: Supervised Machine Learning - Part 1 |
| Reminder again to get your two networking events in before the end of the session! | | |
| 11 | 3/24 | Course Material:   * Remaining content from Week 2 of Applied Machine Learning in Python: Supervised Machine Learning - Part 1 |
| Test your project with someone else’s computer to ensure you haven’t missed anything that will prevent it from passing the requirements.  Have a mentor review your project to ensure it meets the requirements. | | |
| 12 | 3/31 | Course Material:   * Work on Final Project * Present work in progress to class   Last week! Projects are due by Friday |
| All Project due no later than April 2nd at 12:00 (noon), sharp. Complete the form emailed out to turn in your project.  Coursera must be complete as well and networking events must be reported. The form to submit them is on the first page of the syllabus | | |
| 13+ | April | Job Readiness Workshops and 1-on-1’s - see below |

**Post Graduation: Job Readiness Workshops!**

**Dates will be announced closer to the end of the session but will be offered in the weeks following graduation with multiple options to choose from.**

* + **Where:** Info and Zoom links to be sent out in advance of the workshops
  + **When:** 6-8pm, varying days will be offered to accommodate your schedules
  + **What to bring:** laptop, current digital resume, and have a LinkedIn account set up
  + **What we’ll do:** Teach you everything we know based on techniques that actually work to support your job hunt!

**In-person 1-on-1’s with Student Success Coordinator**

**To be held after completion of a Job Readiness Workshop**

* **1 on 1 Review**
  + **Where:** Virtual meetings with Student Success Coordinator
  + **When:** In the weeks following your job hunt seminar, you will have an option for a 30 minute meeting with our Student Success Coordinator
  + **What to bring:** You should be prepared to share your thoughts on your job aspirations. We will also go over your resume, a sample cover letter, and LinkedIn profile. You should come with questions and discussion topics about your job hunt, resume, or other career questions or else the meeting might be very short!
  + **What we’ll do:** A brief review and recommendations for your job hunt materials, some interview questions if you want them, and next steps in your learning and career path.

**Public Data Sources**

* <https://fred.stlouisfed.org/>
* <https://www.data.gov/>
* [https://www.sec.gov/edgar](https://www.sec.gov/edgar/search-and-access) (All public company filing data)
* <https://www.kaggle.com/datasets>
* <https://data.louisvilleky.gov/>