**Code Louisville - May 2022**

**Data Analysis Pathway - Course 2 Syllabus**

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

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

1. **Complete the Pluralsight Track**

This includes completing all courses and interactive courses. You will be added to the **Data Analysis - Course 2 (May 2022)** channel and can see it by clicking “Channels” in Pluralsight. You can also click the links in this document below to go directly to the courses. If you do not see the Channel added in Pluralsight, please contact a staff member to be added. You should complete the Pluralsight courses by your meetup day, as the topics covered may be discussed by your mentors.

**All videos in your assigned channel in Pluralsight must be completed by Sunday, July 17, at 11:59pm ET. You should see a 100% completion for your channel.**

Note: While there is a Pluralsight app, we do not recommend using it, as some courses (such as the interactives and guides) are not available in the app.

1. **Complete a portfolio project**

This project must be completed by **Friday, July 29th at noon** and must fulfill every requirement listed 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. **Conduct an informational interview**

Students are required to reach out to people working in their field of interest and conduct an informational interview to learn more about how that person got into the field and to learn more about the industry. Interviews may be done in person or virtual. Once completed, [submit your informational interview using this form](https://docs.google.com/forms/d/e/1FAIpQLSfWGNW6g3OQ9IIuiLNYUkPdCOuWpqZpM0HbxFVyKzQZl8DZyQ/viewform?usp=sf_link).

Here is an article with [tips for conducting an informational interview](https://www.themuse.com/advice/5-tips-for-nonawkward-informational-interviews). For more assistance, reach out to Jenny on Slack @ Jenny Terry.

1. **Apply for 3 open tech positions**

As Code Louisville is designed to help prepare you for a career in software development or other tech-related careers, you will be required to apply to three open tech positions. This is designed to help you get used to applying for positions and to overcome “imposter syndrome”. You are required to apply to three jobs even if you plan on staying with your current position or company. To submit the jobs that you have applied for, [complete this form](https://docs.google.com/forms/d/e/1FAIpQLSe-RATvKCt_-kPyKmf5hMPVy0Khmv-B1Iqp3ACQVE_2EbrHeg/viewform?usp=sf_link).

The requirement is only to apply for open positions. If you receive an invitation to interview for the position, you do not need to accept unless you wish to.

1. **Attend your weekly 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. Attendance will be taken virtually through Zoom - it is your responsibility to ensure your attendance is counted. If you finish the Pluralsight track early, you are still required to attend class

**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>

**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 Pluralsight 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>.

Violation of the Code of Conduct may result in being removed from the program at the discretion of Code Louisville staff.

**Zoom Links**

Links are below 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 link below will become active a few minutes before 6pm.

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

[**https://us02web.zoom.us/j/82919607895?pwd=TGRJVUhzeFVjTEIySjFuVjBRNWxzQT09**](https://us02web.zoom.us/j/82919607895?pwd=TGRJVUhzeFVjTEIySjFuVjBRNWxzQT09)

Meeting ID: 829 1960 7895

Password: 735775

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.*

**Free Data Resources**

<https://www.kaggle.com/>

<https://data.gov/>

<https://data.louisvilleky.gov/>

**Weekly Schedule**

*Regular Courses* are marked “**Course Title**” in bold blue text.  
*Interactive Courses* are marked “**Interactive - Course Title**” in bold red text.

*Optional Material* is colored **Pink** below.

Each week, your mentors will go over code presented in the example project found [HERE](https://colab.research.google.com/drive/1JOOZCxAw07BD9kCTIQfBVuId_gGZstvh#scrollTo=452c6a08)

| **Week** | **Dates** | **Pluralsight Assignments (try and complete by day of class that week)** |
| --- | --- | --- |
| 0 | 5/3 & 5/4 | Orientation Get started on week 1 videos below |
| First Pluralsight videos are assigned. Look at each week below to see what you should have completed by class time. | | |
| 1 | 5/9 - 5/12 | **Complete by your class night:**  [**Pandas Fundamentals**](https://app.pluralsight.com/library/courses/pandas-fundamentals/table-of-contents) (~1h 21min)  **GUIDE -** [**Data Wrangling with Pandas**](https://app.pluralsight.com/guides/data-wrangling-pandas) (~13min)  **GUIDE -** [**Importing Data in Python**](https://app.pluralsight.com/guides/importing-data-in-python) (~10min)  **GUIDE -** [**Exploratory Data Analysis and Pre-processing in Python**](https://app.pluralsight.com/guides/building-your-first-python-analytics-solution) (~10min)  Optional, and a reminder from Data 1: [Common git commands](https://github.com/WillTirone/CodeLouisville_Examples/blob/main/git%20commands.pdf) |
| First night of meetups. Zoom information is above.  We will explain more about class and expectation, meet your mentors, learn more about you, and get your computer up and ready to do some software development. | | |
| 2 | 5/16 - 5/19 | [**Data Wrangling with Python**](https://app.pluralsight.com/library/courses/data-wrangling-python/table-of-contents) (~1h 20min)  [**Introduction to SQL**](https://app.pluralsight.com/library/courses/introduction-to-sql/table-of-contents) (~1h 10min)  [**What is SQL?**](https://app.pluralsight.com/guides/what-is-sql)  (7m read)  [Practice Database](https://www.w3schools.com/sql/trysql.asp?filename=trysql_asc) (optional) Try using this practice database. One of the difficulties of practicing SQL is it’s a little involved to set up a full database on your local machine, but this online version works pretty well to practice. You can see the names of the tables on the right. Try writing some different statements to practice and see how it works!  [Python Data Science Handbook](https://jakevdp.github.io/PythonDataScienceHandbook/) (optional) (bookmark this and use it for reference, don’t feel like you need to read through the whole thing but it’s free and does an incredible job of explaining pandas) |
|  | | |
| 3 | 5/23 5/26 | [**Python Best Practices for Code Quality**](https://app.pluralsight.com/library/courses/python-best-practices-code-quality/table-of-contents) (~1h 10min)  [**Knowledge Check 1**](https://colab.research.google.com/drive/1UqcdOT_3B6vjZqafnU32l2d0O_Vc1G7w?usp=sharing)(1.5 hr.)  [PEP 8](https://peps.python.org/pep-0008/) (Optional, reminder from Data 1 but always worth reviewing.)  [First Contribution guide on GitHub](https://github.com/firstcontributions/first-contributions) (Optional, if you’ve ever been curious about contributing to open-source projects, this guide is so great and will help solidify your knowledge of git. Also a reminder from Data 1 but give it a shot now to review git if it’s been a while!) |
| **Student Check - In** | | |
| 4 | 5/30 - 6/2 | [**Cleaning Data: Python Data Playbook**](https://app.pluralsight.com/library/courses/cleaning-data-python-data-playbook/table-of-contents) (~1h 10min)  Seaborn is another popular visualization library; the below videos are part of a good series on YouTube that explain the basics of using different kinds of plots. You can do the same with matplotlib (and seaborn uses matplotlib) but this is just a different view of how to do something similar with a different library in Python.  From YouTube:  [Intro to Seaborn](https://www.youtube.com/watch?v=vaf4ir8eT38&list=PLtPIclEQf-3cG31dxSMZ8KTcDG7zYng1j) (8 m.)  [Make a histogram in Seaborn](https://www.youtube.com/watch?v=Bjz00ygERxY&list=PLtPIclEQf-3cG31dxSMZ8KTcDG7zYng1j&index=3) (13 m.)  [Make a boxplot in Seaborn](https://www.youtube.com/watch?v=Vo-bfTqEFQk&list=PLtPIclEQf-3cG31dxSMZ8KTcDG7zYng1j&index=5) (15 m.)  [Make a scatter plot in Seaborn)](https://www.youtube.com/watch?v=4yz4cMXCkuw&list=PLtPIclEQf-3cG31dxSMZ8KTcDG7zYng1j&index=9) (11 m.)  [Make a regplot in Seaborn](https://www.youtube.com/watch?v=Smh7ujDbYyg&list=PLtPIclEQf-3cG31dxSMZ8KTcDG7zYng1j&index=11) (12 m.) |
| Start reaching out to tech professionals for informational interviews and report them on the form linked in this syllabus. | | |
| 5 | 6/6 - 6/09 | [**Collecting and Preparing Data for Tableau Desktop**](https://app.pluralsight.com/library/courses/tableau-desktop-collecting-preparing-data/table-of-contents) (~1h 24min)  [**Build Your First Dashboard with Tableau**](https://app.pluralsight.com/library/courses/build-first-dashboard-tableau/table-of-contents) (~45min) |
| Pick a project idea to work on and bring to class. | | |
| 6 | 6/13 - 6/16 | [**Tableau Desktop Specialist - Connecting to and Preparing Data**](https://app.pluralsight.com/library/courses/tableau-desktop-specialist-connecting-preparing-data/table-of-contents) (~30min)  [**Tableau Desktop Specialist - Creating Basic Charts**](https://app.pluralsight.com/library/courses/tableau-desktop-specialist-creating-basic-charts/table-of-contents) (~ 30min)  [**Tableau Desktop Specialist - Organizing Data and Applying Filters**](https://app.pluralsight.com/library/courses/tableau-desktop-specialist-organizing-data-applying-filters/table-of-contents) (~30min)  [Knowledge Check 2](https://colab.research.google.com/drive/1CV6llGPjn05pqwO-PSHJdO5O8E1OrXm6?usp=sharing) (1 hr.) |
| Don’t forget to conduct an informational and submit it on the form linked in this syllabus.  **Wireframes/Mockups/Project Brief - Due**  **Supplemental** - https://www.tableau.com/learn/training/20214 | | |
| 7 | 6/20 - 6/23 | **GUIDE -** [**Tableau Playbook - Side-by-Side Bar Chart**](https://app.pluralsight.com/guides/tableau-playbook-side-by-side-bar-chart) (~13min)  **GUIDE -** [**Tableau Playbook - Scatter Plot**](https://app.pluralsight.com/guides/tableau-desktop-playbook-scatter-plot) (~13min)  [**Tableau Desktop Playbook: Building Common Chart Types**](https://app.pluralsight.com/library/courses/tableau-desktop-building-common-chart-types-playbook/table-of-contents) (~3h 46min)  **Virtual Environments** (optional)**:**  Optional, a good resource: [Conda cheatsheet](https://docs.conda.io/projects/conda/en/4.6.0/_downloads/52a95608c49671267e40c689e0bc00ca/conda-cheatsheet.pdf)  Optional: [managing virtual environments](https://docs.conda.io/projects/conda/en/latest/user-guide/tasks/manage-environments.html) |
| You should have started your project by now and be incorporating some of the things learned in Pluralsight into it. | | |
| 8 | 6/27 - 6/30 | [**Communicating Data through Storytelling: Executive Briefing**](https://app.pluralsight.com/library/courses/data-through-storytelling-executive-briefing/table-of-contents) (~13min)  [PySpark Introduction](https://www.youtube.com/watch?v=3-pnWVWyH-s) (17 m., YouTube) This is a hot topic in Python right now - don’t worry about trying to use it for your project, but it’s a good look into a more “complicated” tool in Python. Pandas can work with row counts in the millions, Spark can work with row counts in the billions.  [Big-O Notation](https://www.youtube.com/watch?v=duvZ-2UK0fc) (30 m., YouTube) This is a great discussion and presentation on how Big-O notation works and how your code can get really slow if you use the wrong algorithm. Again, don’t worry about trying to do any of this in your project but just listen to the general ideas. |
| Last week of assigned videos! | | |
| 9 | 7/4 - 7/7 | [Knowledge Check 3](https://colab.research.google.com/drive/1oIOejKr-qHC4L3EGb1ycQaAsjiChbft1#scrollTo=kYd3iy8gKYwV) (1.5 hr.)  No more Pluralsight assigned but keep working on some optional videos if you can. Turn your focus toward your projects! |
| **Student Check - In**  Continue to work on your projects, make sure videos are done by now. Make sure you apply for 3 open tech positions and submit them using the form in this syllabus. | | |
| 10 | 7/11 - 7/14 | **Work on your projects!** |
| Reminder again to get your informational interview in before the end of the session!  **All videos in your assigned channel in Pluralsight must be completed by Sunday, July 17, at 11:59pm ET. You should see a 100% completion for your channel.** | | |
| 11 | 7/18 - 7/21 | **Work on your projects!** |
| 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 | 7/25 - 7/29 | **Last week! Projects are due by Friday** |
| All projects due no later than July 29th at 12:00 (noon), sharp. Complete the form emailed out to turn in your project.  All requirements, including Pluralsight, informational interviews, and job applications must be completed and submitted as appropriate. | | |
| 13+ | August | On the Job Hunt! |