Data & Code Support Menu

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The Carnegie Mellon University Libraries support faculty, researchers, students and staff in their use of code, data and data-related tools. Below are the support services we offer to instructors and faculty looking to support student learning related to data.

Our data consultation team, along with our Liaison Librarians and other specialists, maintain a wide variety of digital and technological skills, such as data use and analysis, open science practices, coding in R and Python, and recommended practices for research. The options below are designed to connect you with that knowledge and expertise. We recognize that university instructors are often tasked with teaching many of these topics within their courses and we are open to supporting your course in a number of ways including direct guest instruction, designing collaborative pedagogical materials, creating videos, helping design assignments, or in other ways that may be useful.

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Data & Code Support Canvas Module

The Libraries Data & Code Support Canvas module offers a set of resources to aid students in their data and code-related learning. The module includes an overview of the available resources and support services offered and about how students can schedule consultations with the Data & Code Support Team for one-on-one help, on topics like data management, data analysis, coding, and more. In addition, the module points students to our virtual and in-person workshops on various data science topics, enhancing their skills and knowledge. Self-paced learning resources are highlighted including online tutorial platforms and courses. This module can be easily integrated into Canvas courses making it easier for students to find and access additional support and resources.

Want to add the Data & Code Support module to your Canvas course? Add by visiting the [resource link](#) and logging in to import or download.

Short and Extended Workshops

We offer [short workshops](#) of 1-2 hours designed to teach students, staff, or faculty (or a mixture of these) about a variety of data science skills, software, and topics. These are often taught by library employees, but occasionally feature guest instructors from the community or industry. We can also schedule program or department-specific sessions to better meet the needs of students and instructors.

Examples of workshop topics include: *Data Visualization with Tableau, Data Management Tips and Tricks to Organize your Research, Qualitative Coding, Introduction to Python for Data Science, Building your Programming Tool Box: Command Line, Git and GitHub, and Introduction to R.*

How do they work? For the Workshop Series, workshops are offered throughout the week from Mondays to Friday during the semester. Anyone can sign up to attend.

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Want to learn more or register for a workshop? Check out the calendar.

We also offer longer foundational coding workshops in R and Python through our membership with the non-profit [The Carpentries](#). These workshops are typically 12 hours of instruction over 3 days and occur twice a year. The Carpentries curricula are open-source and can be reused or adapted by instructors as well. Students, staff, or faculty interested in Carpentries workshops can write to data@cmu.libanswers.com to get more information or be put on a priority registration list for a future workshop.

Data, Coding, and Research Publishing Consultations

All students, faculty, and staff can schedule in-person or virtual Zoom consultations with library experts and consultants in all things digital- and data-related. This can mean anything from just learning how to get working on the command line; getting an introduction to the wide array of data visualization, GIS, text analysis, and data mining research methods available; or having a brief consultation about a specific research project. Our team can help with questions across the research lifecycle, from data curation and digitization to metadata and publishing, including using CMU's institutional repository, KiltHub.

> **Examples of consultation topics include:** *Debugging R or Python code, learning how to effectively visualize data in Tableau, finding a dataset to use for research, getting help preparing a dataset for sharing in an open repository, managing copyright and fair use.*

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How does this work? These consultations last anywhere from 30 minutes to 1 hour and multiple consultations can be scheduled for more in-depth help. Students can schedule a consultation with one of our consultants based on their expertise, or just fill out our [general consultation service form](#) to be connected to the right person.

Want to learn more? Learn more about our consultation services and our consultants on the [Data & Code Support website](#). Schedule a consultation directly with one of our team members or fill out [the general consultation service form](#).

Tools and Software

The Libraries support tools and software to respond to the need for responsible data practices in research. The Libraries [Open Science Program](#) provides licenses for tools and software to facilitate data science, open science, analysis, and collaboration. We encourage faculty to explore these options for use in the classroom or student research. These tools can support student learning by enhancing collaboration, promoting good data management practices, and educating students about the benefits of transparency, fairness, and reproducible research.

Examples of tools and software: *LabArchives for electronic lab notebooks; Open Science Framework for research project management and collaboration; protocols.io for publicly sharing research protocols and methods; DMPTool for creating a data management plan with funder-specific language and templates*

How do they work? Depending on the tool, we offer different levels of support and training. You can explore our [Data & Code Support website](#) to identify who can help with specific tools, as well as visit our [Open Science & Data Collaborations website](#) to find more details on the open science tools available.

Interested in learning more about these tools or other tools and software? Email us at data@cmu.libanswers.com.

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Asynchronous Learning Modules and Courses

The University Libraries provides access to self-guided resources, online tutorials, courses, learning modules and other learning platforms to build data science skills. These materials can be incorporated into coursework via Canvas or provided as links in course syllabi. We can work with university instructors to integrate and recommend these materials, or can create custom recorded content on request. For new video requests, please allow sufficient time for us to receive the request, plan the content, and produce the video (typically 2 weeks to 1 month, depending on length and depth of content). To request a video, get in touch with a [departmental librarian instructor](#) or a [library instructor that specializes in data management, data visualization, or specialized types of research](#). Here are some key resources to know about:

University Libraries Workshop Curricula

We are increasingly adding full workshops content and curricula to our [open data science workshops page](#). We encourage instructors and students to use this content for self-guided learning or to repurpose it for in-class sessions.

University Libraries YouTube Playlists

Some of the data science workshops we offer have been prepared as [short videos](#) that deliver our workshop content in easy-to-digest formats for asynchronous viewing and self-paced learning. For example, see the [Introduction to R](#) and [Data Visualization in R](#) playlists.

Sage Campus

[Sage Campus](#) provides access to a growing collection of online courses on introductory skills and research methods including critical thinking, data literacy, research design, R and Python, statistical methods and more. If you would like to integrate a Sage Campus course into your

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Canvas course, please contact one of our liaison librarians, [Sarah Young](), for more information about managing student cohorts.

LinkedIn Learning

[LinkedIn Learning](), formerly Lynda.com, is provided by the University Content Management System Team. This platform has a wealth of video tutorials and full courses on many data science, software and coding language topics.

Dataquest

The University Libraries offer university-wide premium licenses for [Dataquest](), the scaffolded online learning platform with a full catalog of interactive courses, including skill paths such as data visualization, machine learning, and data scraping and career paths using Python, R, Power BI, and Tableau. To activate a premium account, CMU students, staff and faculty should complete [this account request form]().

Data Literacy Support

The Libraries is also developing materials and training that relate to the [CMU Core Competencies]() for Information and Data Literacy through a [Data Literacy Program](). This includes offering workshops and providing access to learning materials related to the data lifecycle that can be incorporated into existing courses. These topics includes critically evaluating data, manipulating data for analysis, managing data, and communicating about data. For more information contact Dr. Emma Slayton ([eslayton@andrew.cmu.edu]())

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