Introductions

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If you are looking at this material for the first time, check out our [About page](#) to learn more before you start.

Lesson objectives

- Identify common ground with some of your fellow workshop participants
- Describe what will and will not be covered in this workshop

Introductions

Instructors

As participants come in, ask them to add their name and e-mail to the collaborative document.

Instructors will introduce themselves.

Context

This training is part of the NSF-funded project "Building Capacity in Data Science through Biodiversity, Conservation, and General Education" (Awards 2122967 and 2122991). The goals of the grant are really two-fold:

1. Provide accessible data science skills training to undergraduate students, with an emphasis, but not restriction, to STEM fields.
2. Provide professional development opportunities to instructors of those undergraduate students, so they can feel empowered to teach data science applications in their classrooms.

The lessons presented here address point #2 above.

The Carpentries is a non-profit organization that teaches foundational coding and data science skills to researchers worldwide. These are most often advertised as Software Carpentry, Data Carpentry, and Library Carpentry workshops. The organization has a curriculum for *training* the folks who instruct in those workshops, and much of the material in the pedagogy session comes from that instructor training curriculum.

Now we would like to hear from you.

Participants

Exercise

Add your name to the collaborative document and provide a brief (2-3 sentences) description of your motivation for participating in this summer session.

Expectations

We look to you all to support one another during these sessions. Like your students, the participants in this workshop come from a variety of backgrounds and disciplines and we expect respectful behavior. We are all here to learn how to do our work better, not make trouble for our peers.

In short, don't be a jerk.

Logistics

We will meet twice a week, for two hours each. We'll aim to take a short break (10 minutes) near the midpoint of each session, although the exact time will depend on the day's material.

We will be using the collaborative document to share answers and information; for those on Zoom, we will be occasionally using breakout rooms. For those who are participating in person, there will be points where we will ask you to split into groups and for the small group activities. We will be switching back in forth between passive learning (i.e. me talking to you) and active learning, where you are provided prompts to respond to. Towards the end of the lessons focused on pedagogy, you will also have opportunities to do some practice teaching.

What will be covered

In the first week, we focus on the process of building skill. We will also talk about the limits of human memory, how learning works, and how we can use that understanding to craft our instructional practices.

In the second week, we turn to the classroom environment, starting with the concept of reverse instructional design. We will discuss how to motivate students and how *not* to demotivate them. We will also have discussions about improving equity, inclusion, and accessibility in data science training.

The third week will focus on the practice of teaching data science skills and how we can intentionally improve our skills as teachers.

The fourth week will be putting all this into practice, with opportunities to practice live coding instruction and getting started with lesson development.

We will switch gears in weeks five and six, focusing on our own skills development in programming and data tools.

Exercise

What are your goals for this training? How would you like to incorporate data science or data literacy into your classroom?