BRIAN DAY 2 AFTERNOON

Checkout Process

Overview

Objectives

- Describe the final steps required to qualify as an instructor.
- Schedule your instructor discussion session.

Questions

- What do I need to do to finish certifying as a Carpentries instructor?

Teaching: 5 min
Exercises: 10 min

During this period after lunch, we'll be talking about some of the nuts and bolts of getting involved in the Carpentries. First, we'll discuss what actions you'll need to take after this training to become a fully certified instructor. After that, we'll address any questions about the Carpentries organizations, running workshops, and getting involved in the community in other ways.

Application form

Make sure that you have filled out the Carpentries instructor application form. We can not track your progress and make you an official instructor without it. If you have already filled out this form, you do not need to submit another application.

Instructor Checkout

As you read in your homework last night, there are three final steps to complete before qualifying as an instructor. The instructor checkout webpage explains the procedure in detail. Briefly, the three steps are:

1. Make a contribution to a lesson's content, exercises, or instructor notes by doing **one** of the following:
    1. Submit a change (i.e. pull request) to fix an existing issue.
    2. Proof-read a lesson and add a new issue describing something to be improved.
    3. Provide substantive feedback on an existing issue or pull request.
2. Take part in a community discussion with experienced instructors.

3.Prepare to teach a full Carpentries lesson (i.e. the content of one lesson repository). Then perform a 5-minute live coding demo for that lesson starting at a point chosen by the session lead.

Checking Out Review with Questions and Answers

In small groups, read and discuss one of the three checkout procedures listed above and described in detail at This page. Make notes in the Etherpad and when you're done, report back to the full group about the requirements for that stage of the process. What questions do you still have about the checkout process?

This exercise should take about 5 minutes.

Schedule a Discussion or Demo

Visit the discussion Etherpad to sign up for a session. If the session you would like to attend is full, contact the discussion host and co-host to ask if you can attend.

If you'd prefer to do your teaching demonstration before your discussion, visit the demo Etherpad and sign up there. This demo rubric is provided as a guide for Trainers evaluating potential new instructors during the teaching demonstration.

This exercise should take 5 minutes.

Lesson Contribution

The lesson materials are hosted on GitHub:

- Data Carpentry on GitHub
- Library Carpentry on GitHub
- Software Carpentry on GitHub

and are developed collaboratively. Each lesson is in a separate repository, and consists of narrative lesson material and an associated directory containing the data or scripts needed in the lesson. This source material is also then served as a website, using GitHub's "gh-pages" feature.

Lesson contribution is managed within the repository using "issues" and "pull requests". New problems or suggestions can be introduced as issues, discussed by the community, and addressed via a pull request, which serves as a "request" to make changes, and can also be discussed before changes are merged.

If contributing on GitHub is new for you, see this guide that is customized to the Carpentries workflow.

What's in a Badge?

Once you have completed all checkout steps, you will receive an email with your Instructor badge! What does this mean?

- **You get to teach!** Badged instructors are certified to co-teach any Carpentries lesson. All Carpentries Instructor badges are acceptable to teach any Software

Carpentry, Data Carpentry, or Library Carpentry lesson. While non-badged instructors may also co-teach, every Carpentries branded workshop must have one badged instructor to lead the way.

•**You get to vote!** Badged instructors are eligible to vote in Carpentries Executive Council elections for their first year, and for all subsequent years in which they continue to participate through teaching or other involvement. See this section from the Carpentries Bylaws for rules governing continuing voting eligibility.

•**You've got something to brag about!** Looking for language to add to showcase your skills and experience? Here is some text to get you started!

Check Out the Discussion (Optional)

As an instructor, your voice is important! We want you to be actively involved in discussions about the lesson materials (and other aspects of the Carpentries community). Go to the GitHub page for the lesson you worked with over the past two days and click on the "Issues" tab. Read through some of the discussions and, if you have anything to add, please add it to the conversation! If you wish to make a pull request, be sure to examine the contribution guidelines for the repository you are working in. If you do make a significant contribution to the discussion, send a link to the issue to checkout@carpentries.org. Congratulations! You've just completed one of the three remaining steps in becoming a Carpentries instructor.

Leave about 5-10 minutes for this exercise.

Ongoing support

Discussion sessions aren't only for instructors-in-training working towards their certification. Instructors are highly encouraged to participate in discussions before and after each of their workshops, so that they can continue to learn from each other and advance their teaching skills. For even more support, consider participating in our Carpentries Mentoring program!

Key Points

- To certify, you must contribute to a lesson, take part in a discussion, and do a teaching demo within 90 days of your training event.

The Carpentries: How We Operate

Overview

Teaching: 30 min
Exercises: 45 min
Questions

- How is The Carpentries organized and run?
- What is the difference between SWC, DC, and LC workshops?

Objectives

- Get connected with the Carpentry community.
- Describe where you can go to get information on running a workshop.

In becoming a certified Carpentries instructor, you are also becoming part of a community of like-minded volunteers. This section provides some background on The Carpentries projects and information about how to get involved.

A Brief History

Software Carpentry was founded in 1998 with the mission of teaching lab skills for research computing. Data Carpentry was founded in 2014 with the mission of building communities teaching universal data literacy. Also in 2014, Library Carpentry was founded with the mission of teaching data skills to people working in library- and information-related roles.
On January 1, 2018, Software Carpentry and Data Carpentry merged their projects to form a new project called The Carpentries under the fiscal sponsorship of Community Initiatives. Within this new organization structure, Software Carpentry and Data Carpentry retain their individual identities as Lesson Programs of the Carpentries. On November 1, 2018, The Carpentries Executive Council approved Library Carpentry as the third official Lesson Program of the Carpentries.

The Carpentries project comprises communities of Instructors, Trainers, Maintainers, helpers, and supporters from Software Carpentry, Data Carpentry and Library Carpentry who share a mission to teach foundational computational and data science skills.

A brief history

You can learn more about the history and goals of each Lesson Program by reading "Software Carpentry: Lessons Learned", "Data Carpentry: Workshops to Increase Data Literacy for Researchers" and "Library Carpentry: software skills training for library professionals"".

Similarities and Differences between The Carpentries Lesson Programs

All lesson programs under The Carpentries share the same value of promoting efficient, shareable, and reproducible research practices. Their aligned missions are accomplished by running accessible, inclusive training workshops; teaching openly available, high-quality, community-developed lessons; and fostering an active, inclusive, diverse instructor community that promotes and models reproducible research as a community norm.
Similarities between Software, Data and Library Carpentry workshops include:

- a focus on technical skills.
- two-day format taught by volunteer instructors.
- a focus on filling gaps in current training for learners.

The major differences between Software, Data and Library Carpentry workshops are their content and intended audience.
Software Carpentry workshops are:

- intended for people who need to program more effectively to solve their computational challenges,
- not domain-specific, and
- modular—each Software Carpentry lesson is standalone.

Data Carpentry workshops:

- are aimed at pure novices,
- are domain-specific,
- focus on best practices surrounding data, and
- present a full curriculum centered around a single data set.

Library Carpentry workshops:

- are aimed at people in library- and information-related roles,
- focus on best practices in data structure, and
- are modular—each Library Carpentry lesson is standalone.

The Carpentry Community

The Carpentries works to help institutions and individuals spread skills for data analysis, computational thinking, and research software development through building local and global communities of practice. Our community depends on individuals like you who are passionate about expanding these communities of practice through inclusive and evidence-based instructional practices, and can contribute your perspective and expertise to continually refine our instructional materials and practices. A full description of the breadth and diversity of community member roles, an overview of the Carpentries' various social media channels, a calendar of future community events, and descriptions of mailing lists used by the community can be found here on the Carpentries website and also on the getting connected page.

Participating in the Carpentries – What's Your Role?

> If you are at an in-person training, your instructor will hand out paper copies of a worksheet. If you are at an online training, you can get a digital copy here.
>
> Take a moment to review member community roles on the Carpentries' community website. Working on your own, match up the roles with the descriptions. When you are done, think about the question at the bottom of the

worksheet about what roles you might play, and enter your thoughts in the Etherpad.

Solution

Instructors: C Mentors: E Trainers: D Lesson developers: J Curriculum advisors: B Lesson maintainers: F Lesson Infrastructure Team: I Assessment Team: K Champions: L Infrastructure Team: H Regional Coordinator: A Code of Conduct Committee: G

This exercise should take about 10 minutes.

Get Connected

Take a couple of minutes to sign up for the Carpentry discussion channels you want to stay involved with.

How a Workshop Works

The **Carpentries Handbook** is a community-developed resource that provides tips, checklists, and points of contact for nearly all Carpentries-related activities in one location. The Carpentries Handbook is the definitive source for policies and information. Here, we will briefly cover workshop types, core curricula, official logos, and workshop websites.
Briefly, there are two types of Carpentry workshops: self-organized and centrally-organized. For a centrally-organized workshop, Carpentry staff takes care of organization and administration such as finding instructors and handling workshop registration. For a self-organized workshop, all of these details are handled by the instructors or organization hosting the event.

To request a Data Carpentry, Library Carpentry, or Software Carpentry workshop, please complete our workshop request form. For more details, vist the Data Carpentry, Library Carpentry, or Software Carpentry workshop pages.

Policies related to instructor training and workshops The Carpentries can be found in the policies repository. Please be sure to read through the instructor no-show policy before signing up for your first workshop.

Materials

All of Software Carpentry, Data Carpentry, and Library Carpentry lessons materials are freely available under a permissive open license. You may use them whenever and however you want, provided you cite the original source.

Using the Names and Logos

The names “Software Carpentry”, “Data Carpentry” and “Library Carpentry” and their respective logos are all trademarked. You may only call a workshop a Software Carpentry, Data Carpentry, or Library Carpentry workshop if:

- it covers the core topics,
- at least one instructor is certified,
- you run our standardized pre- and post-workshop assessments and ensure everyone participates, and
- you send us summary information about attendees (at a minimum, the number of people who attended).

What is the Core Curriculum?

A Software Carpentry workshop must include lessons on version control (e.g. Git), the UNIX shell, and a programming language (e.g. R or Python).
A Data Carpentry workshop must include a Data Carpentry lesson on data organization and three other modules in the same domain from the Data Carpentry curriculum. Published curricula include the Ecology, Genomics, Social Science and Geospatial workshop materials. Additionally, Astronomy, Digital humanities, Economics and Image analysis curriculum are under development.

A Library Carpentry workshop must include three to four of the core lessons, which include an introduction to data, the UNIX shell, OpenRefine, and Git. Library Carpentry also maintains an “extended” set of lessons that can be taught in addition to the core curriculum These lessons are taught infrequently or are under development and include: SQL, webscraping, Python and an introduction to data for archivists.

Within these guidelines, there is flexibility in which episodes of the lesson you cover, which exercises you use, and whether you include optional materials (e.g. callouts) and optional episodes.

Who Can Teach What

Trained instructors can teach curricula for Software Carpentry, Data Carpentry, or Library Carpentry. While instructor badges may list a primary lesson program affiliation, instructors are **not** required to certify separately for each. For more information, see the description of the instructor checkout procedure.

Setting Up

In order to communicate with learners, and to help us keep track of who’s taught what and where, each workshop’s instructors create a one-page website with information about their workshop. Once that has been created, the host or lead

instructor sends its URL to the workshop coordinator, who adds it to our records. The workshop will show up on our websites shortly thereafter.

Practice With The Carpentries Infrastructure

> Go to the workshop template repository and follow the directions to create a workshop website using your local location and today's date. Put the link for your workshop website into the Etherpad.
>
> This exercise should take about 25 minutes.
>
> Note: Sometimes web browsers will cache the workshop webpage, so when you make changes in GitHub, they don't show up on the workshop webpage immediately. Two ways to avoid this are to use a "private" or "incognito" mode in your web browser or by following these instructions to bypass your browser cache.

Question and Answer

> What questions do you have about running and teaching at a workshop? Talk with a partner and enter your questions into the Etherpad. At this time we will also return to discuss questions remaining from the beginning of the day.
>
> Leave about 10 minutes for this discussion.

A Culture of Contribution

In the same way that we hope to promote a culture of openness, sharing, and reproducibility in science and research through training researchers with the tools they need, the Carpentry organizations themselves aim to be open, collaborative, and based on best practices. We want to draw together the collective expertise of our teaching community to create collaborative lessons, share other materials, and improve the lessons via "bug fixes" as we go along.

Lesson Incubation

> Maybe this instructor training has inspired you to go home and write your own fantastic lesson! If you'd like to model it after the Software and Data Carpentry lesson format, you can find a template and instructions in the Carpentries lesson example repository.

Many Ways to Contribute

> We recognize that the medium of GitHub may be restrictive to those who wish to contribute to our lessons. We are always searching for ways to make the

process more friendly to all, whether that be contribution training, or alternative routes to contribution. If you have any ideas how we might make contribution more contributor-friendly, please let us know.

Being part of a friendly, open discussion, is of equal or greater importance to the community than submitting the perfect lesson change. The checkout process to become a certified instructor will be one way to start connecting to the community and find which area will allow you to contribute best.

Key Points

- Carpentry materials are all openly licensed, but Software and Data Carpentry names and logos are trademarked.
- Carpentry workshops must cover core concepts, have at least one certified instructor, use our pre- and post-workshop surveys and report attendance information.
- Guidance for teaching and hosting workshops is provided in The Carpentries Handbook.