**Setting up for working with jupyter notebooks**

*Last update: 12/31/2024, Jim Magnuson*

It is crucial that you get your computer set up for running Jupyter lab the first week of classes. Because some notebooks require libraries that are not available on Google Colab, the only good solution is for everyone to set up Python and Jupyter on their own computers.

**If you do not have a computer you can use for this course, please talk to the instructor ASAP.**

Also, if you have more Python experience and are comfortable using conda (or other) environments, see instructions below for Anaconda; for other environments, you will have to set it up on your own (if you get another setup working, it would be great if you could share instructions that I can share with future students!). I'm providing the simplest possible instructions here first.

**1. Verify that you have Python**

More than likely, you already have Python on your computer. Your first step is to verify this.

**Macintosh or Linux**

Open a terminal (on a Mac, go to Applications::Utilities and open Terminal.app). Enter this command:

python --version

You should see a message like this (though your exact version may be different): Python 3.12.2. As long as your version number is 3.4 or greater, you can skip to the ***Check if you have*** *conda* ***installed*** section below. If you get a lower version, see link below to install python.

If instead, you get a message like "command not found: python", you need to install Python.

**Windows**

Open a Command Prompt or Power Shell: click on the Start Menu. In the search bar, type “Command Prompt” and hit Enter. This will open a new Command Prompt Window (enter 'Power Shell' instead if you prefer).

Enter this command:

python --version

You should see a message like this (though your exact version may be different): Python 3.10.9. That's great, and you can go to the ***Check if you have*** *conda* ***installed*** section below.

If instead, you get a message like "command not found: python", or if your version is less than 3.4, you need to install Python.

**2. Install Python -- ONLY if you did not find it in the previous step**

Go to the official download site and follow the instructions: <https://www.python.org/downloads/>

**3. Check if you have** conda **installed**

We will use conda to create a virtual environment where we will install the packages we need for jupyter notebooks. You could install directly in your base environment using pip, but this is not recommended. To see if conda is installed, at a command line prompt, enter:

conda –version

If you get a message like “conda 24.11.2”, you can move to the next step. If instead you get a message like “conda not found”, you need to install conda. To do so, go to this URL and follow the instructions for your operating system: <https://docs.conda.io/projects/conda/en/stable/user-guide/install/index.html>

**4. Installing the packages we need in a virtual environment using** conda

First, we will create a new conda environment called jupyter-env.

conda create --name jupyter-env python=3.10.9 -c conda-forge

conda activate jupyter-env

Now that jupyter-env is activated, we can install the packages we need.

conda install -c conda-forge IPython ipywidgets matplotlib mesa networkx numpy pandas plotly powerlaw scipy seaborn scikit-learn statsmodels tk tqdm

Note that you will be presented with a much longer list of packages that will be installed. That is because that list includes packages that the ones we want to install depend upon. So answer ‘y’ when asked if you want to proceed.

Now we install jupyterlab.

conda install -c conda-forge jupyterlab

conda install -c conda-forge ipympl

jupyter lab

Subsequently, whenever you want to run jupyter lab with this environment, you need to first activate the environment, and then call jupyter lab:

conda activate jupyter-env

jupyter lab

If you ever forget what you called your environment, you can use this command to list all available environments:

conda env list

**5. Get course notebooks**

Go to the following URL: <https://github.com/comp-cogneuro-lang/comp-neuro-course>

Look for the green Code button. Click it and choose 'Download zip'.

Make a directory where you want this to be located and unzip the file.

*Note: I am improving some of the later notebooks, so they are not yet available. You will need to download this again later in the semester... You can also just download the files you need one at a time.*

**6. Open course notebooks in Jupyter lab**

At the command line (terminal for Mac or linux, *Command Prompt*or *Power Shell*for Windows), navigate to the directory/folder where you put the course notebooks. If you don't know how to do that, just skip that step for now. At the command line, enter this command (with a space this time):

jupyter lab

If you executed this command from the folder where the notebooks are located, you will see a browser as in the screenshot attached to this page. If you could not navigate to the directory location from the command line, just use the jupyter lab interface to navigate there. **However**, you will want to learn how to navigate to that location -- so please ask if you do not know how.