CMSE 201 - Fall 2020 Software Setup Guide

As this is a course in computational modeling and data science, you will be completing all of your assignments using your computer! However, in order to do so there are a number of things you need to set up before the course starts.

MAKE SURE TO COMPLETE ALL OF THE SECTIONS LISTED IN THIS DOCUMENT BEFORE YOU COME TO CLASS

Getting Zoom

All of the course meetings will be conducted via the web conferencing software Zoom, so it is critical to have access to this platform. First, you should download the software, which you can do by going here: https://msu.zoom.us/support/download.

Once you have the software on your computer, you can **link it to your MSU account** by following the steps laid out here

Installing Python for this course

Follow the instructions below to get the Anaconda distribution of Python installed on your computer. Even if you already have a version of Python installed on your machine, we encourage you to go through this installation process as the assignments will assume that you are working with the same versions of the Anaconda Python packages that the instructors are using. If you already specifically have Anaconda installed, we encourage you to update all of the Python packages (you may need to look up how to do this).

Instructions for downloading Anaconda (Python 3.8.x):

1. Go to the Anaconda Download webpage: https://www.anaconda.com/download/ Then click the "Download" button under "Your Data Science Toolkit" to jump to the bottom of the page.

2. Select the appropriate operating system (Windows | macOS | Linux) for your computer (it may auto-detect the correct operating system).

3. Download the Python 3.8 version (64 bit recommended).

4. Follow the online documentation to install Python for your specific operating system:
   https://docs.anaconda.com/anaconda/install/

5. Open the command line program on your computer.

   - On Windows, type CMD in the run box in the Start menu.

   - On Mac, type "terminal" in the spotlight search and run the "Terminal" application

   - On Linux, open up the "Console" application

6. Type "jupyter notebook" in the command line and hit enter.

If everything goes correctly, a browser window should open up with the Jupyter interface running. If things don't work, don't worry, we will help you get started.

MSU's JupyterHub Interface

From time to time, you might run into issues with your computer. When this happens, you should use the web-hosted JupyterHub server managed by MSU. It creates a virtual environment that allows you to run simple commands and host Jupyter notebooks. To make sure that you have access to this backup option, follow the directions below. Note that there are extra steps involved that require that you upload and download you Jupyter notebooks to and from JupyterHub in order to turn them in on D2L.

Instructions for connecting to the engineering JupyterHub server:

Every student enrolled in this class will be given an engineering computing account. If this is your first time using your Engineering account you will need to activate the account by going to the following website:

https://www.egr.msu.edu/decs/myaccount/?page=activate

Enter your MSU NetID. The initial password will be your Apid with an @ on the end (example: A12345678@) and then you have to set a password that meets the requirements listed on the page. Verify the password. Then agree to the terms and Activate.

Once your account is activated you can access the classroom JupyterHub server using the following instructions:

1. Open up a web browser and go to the following URL: https://jupyterhub.egr.msu.edu

2. Type your engineering login name. This will be your MSU NetID.

3. Type your engineering password.

If everything is working properly you will see the main "Files" windows in the Jupyter interface.

If you ever end up working on your assignments using JupyterHub, the remaining directions should serve as a reference for how you can go about uploading and downloading Jupyter notebooks and turning them in.

Instructions for getting Jupyter notebook files onto JupyterHub:

IPython notebooks (also referred to as Jupyter notebooks) are files that end with the .ipynb extension. We will give you these files for all of your assignments, you will edit them and turn in the edited files in using the class Website.

You can download the ipynb assignment files from the class D2L site (http://d2l.msu.edu). Once you have an ipynb file you can load it into Jupyter using the "upload" button on the main "Files" tab in the Jupyter web interface. Hitting this button will cause a file browser window to open. Just navigate to your ipynb file, select it and hit the open button.

Once you see your filename in the jupyter window you can just click on that name to start using that file.

Instructions for making a copy of Jupyter notebooks from JupyterHub and turning them in:

When you are finished editing your IPython notebook and are ready to turn it in you will need to download the ipynb file from the JupyterHub interface.

1. With the notebook file open in Jupyter, go to the "File" menu, select the "Download as" menu option and then choose "iPython Notebook (.ipynb)"

2. Pick a place to save the file (The desktop is a good choice).

3. Make sure you make a copy of the .ipynb file for your own records.

4. Go to the Desire 2 Learn (http://d2l.msu.edu) class site and upload the .ipynb file into the assignment folder.

Course Communication with Slack

We will be using Slack (http://slack.com) as our means of communicating outside of scheduled class times about course content as the semester progresses and you are expected to monitor Slack regularly. We believe that this will provide an excellent avenue to have discussions not only with course instructors, TAs, and LAs,

but also between you and your fellow classmates. In order to join the Slack team that we've created for the course you should complete the following steps:

1. Go to https://cmse-courses.slack.com/signup
2. Once there, sign up using your @msu.edu email address.

Important: When you create your account, use your MSU NetID as your user name. This will make it easier for your instructors to recognize you within the Slack channels.

Once you've joined the CMSE Courses Slack team, you'll need to **add yourself to two channels**. The first channel you should add yourself to is **"cmse201-f20-help".** The second one you should add yourself to is **"cmse201-###-f20"** where "###" corresponds to the section of the course that you are enrolled in. To add yourself to these channels, click on the "+" next to the "Channels" header and "browse" for the appropriate channel -- double check that you are adding yourself to the correct channel.

The "help" channel will be the place to go for any questions about assignments in the course or issues you're having with your computer or Python. We encourage you to help out other classmates when you can! The section-specific channel will be used by your instructor for important messages relevant only to your section of the course.

Slack usage rules

In order to ensure that Slack is an appropriately used tool that does not become overly time-consuming for the course instructors, TAs, or LAs, we have a list of rules for how we expect you to use Slack. They are:

1. Before you ask a question, be sure to check the other session channels to see if the question has already been answered.

2. The Slack team is primarily for you, the students, to help each other.

3. The TAs and LAs will monitor the channels, but will defer to the students to work through things. They will only enter a conversation if students are going down the wrong path and/or there are too few other students involved. However, you should not expect that the TAs or LAs will always be available. The TAs and LAs will spend a limited amount of time "logged in" to Slack and we ask that you be respectful of their time.

4. Slack is meant to be used to help you when you are stuck with a minor issue. If you are having major issues or trouble understanding the concept, go to office hours. Office hours are meant for more in-depth discussions of course content.

5. Course instructors will rarely check Slack, only to examine progress. While they may offer help, do not rely on it. Instructors will not respond to the same student twice within a 30 minute time interval.

6. Only in rare cases should you contact an instructor through a private channel. But, if you are struggling, feel free to use this option.

7. **Do not** post your solutions to out-of-class assignments directly into Slack unless prompted by an instructor.

8. Be courteous to everyone on Slack. Students who are being rude or who are excessively posting might be banned from posting on the course Slack channel.