Lab 0 - Installing MATLAB and Add-ons

Overview

This is a preliminary lab to the rest of the lab. The purpose of this lab is to ensure that everyone has MATLAB along with the required add-on toolboxes installed before the rest of the course labs.

MATLAB R2022 or newer should be installed on your laptop.

This guide is intended to help walk you through installing MATLAB to your laptop. All TAMU students should be able to download MATLAB after creating a MathWorks account. Please follow the steps if you need some guidance in accessing the TAMU software center, creating an account with MathWorks, and the installation of MATLAB.

NOTE: If you already have MATLAB R2022 or newer installed and just need to know how to install the add-on toolboxes jump to the "Installing Add-on Toolboxes with MATLAB already Installed" section on page 7.

Resources:
The following are links to useful resource mentioned through this manual

- Texas A&M Software Center
- MathWorks Home Page

Software to Install

- MATLAB R2022

Add-on Toolboxes to Install

- Simulink
- Optimization toolbox
- Simscape
- Simscape Multibody
- Simscape Electrical
- Simscape Fluids
- Simulink Design Optimization
- Show Block Name Toggle & Shortcut Key

Instructions to Download MATLAB

1. Navigate to the Texas A&M Software Center and sign in with your TAMU account.
2. In the software center locate the MATLAB 2022 Win/Mac/Linux software package and click the product link.
3. On the product page click the radio button as shown in figure 1.

NOTE: The figure images for the installation instructions do reflect MATLAB 2021, please disregard this. These instructions were created initially in 2021, however should remain the same for the latest version of MATLAB.

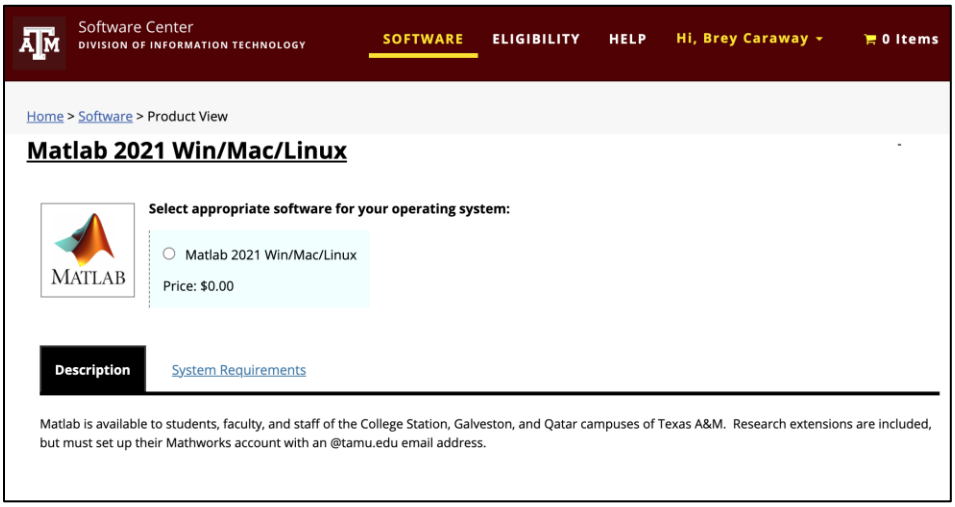

Figure 1: MATLAB Product Page

4. This will add the software to your cart. Afterwards navigate to your cart and click “Check Out >>”.

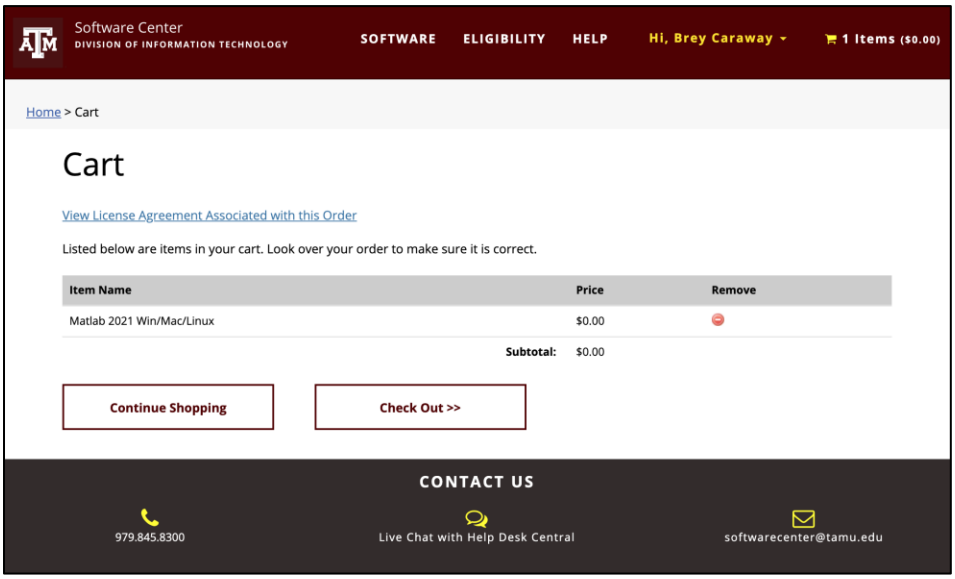

Figure 2: Software Center Cart & Checkout

5. After checking out, you should receive a confirmation email with subsequent information and steps to download the MATLAB package.
6. You will need to create an account with MathWorks using your TAMU email. Navigate to the MathWorks Home Page, and click on the "Get MATLAB" button at the top right corner of the page as seen in figure 3.

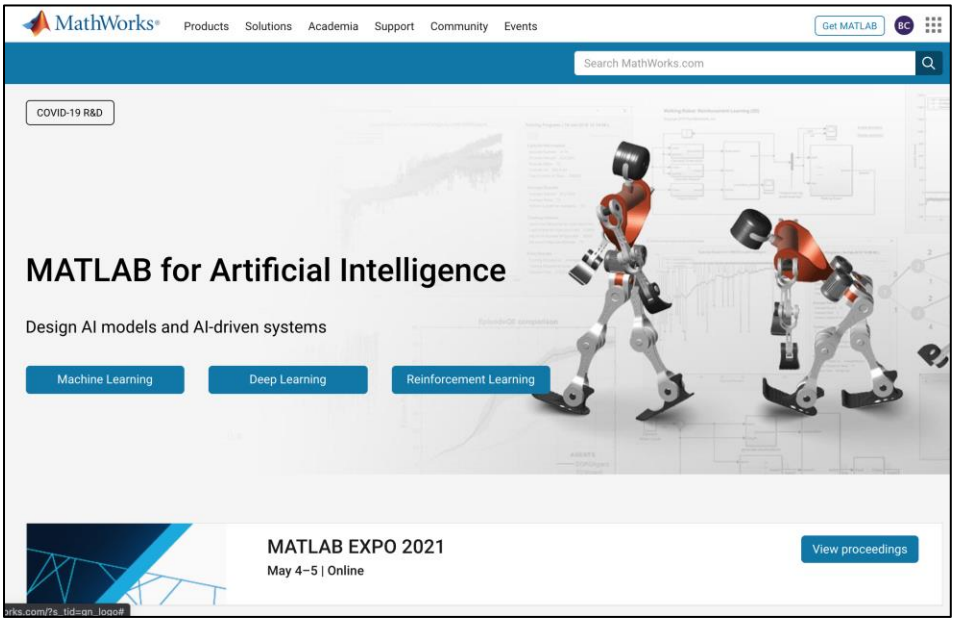

Figure 3: MathWorks Homepage

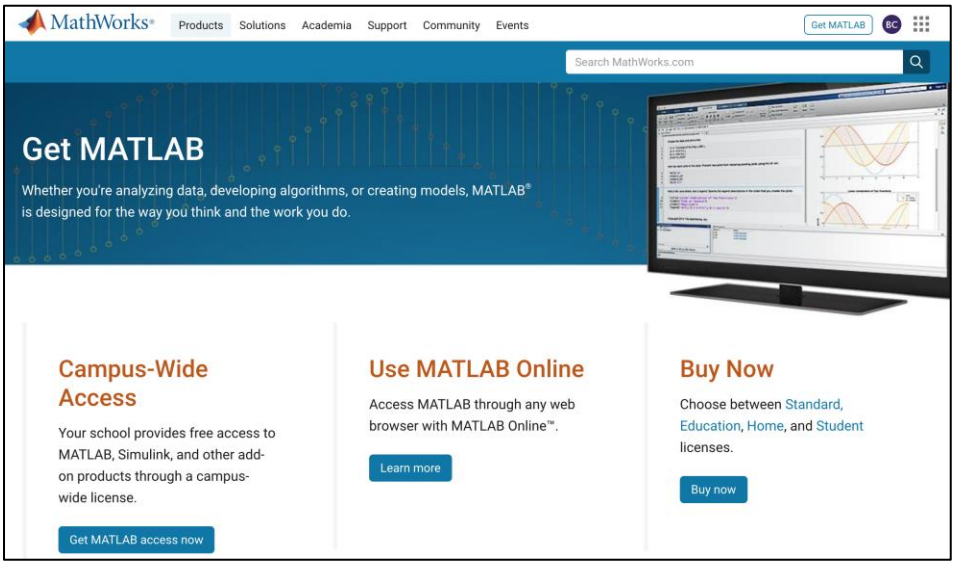

Figure 4: Get MATLAB Page

7. This will take you to a screen as shown in figure 4. Click on "Get MATLAB access now"
8. If you have your account created, sign in to your account, if not do so and sign in.
9. After signing into your account, navigate to your "My Software" page and locate the MATLAB license under your software list.
10. Click on the license and then download button.
11. Follow any additional prompts.

12. After downloading the software package, navigate to your downloads folder and open the zip file to launch the MathWorks Product Installer and follow the installation prompts.

Instructions to Install MATLAB

1. Once the MathWorks Product Installer window has opened, it will prompt you to sign in with your MathWorks account as shown in figure 5.
2. After signing in, accept the terms of license agreement.

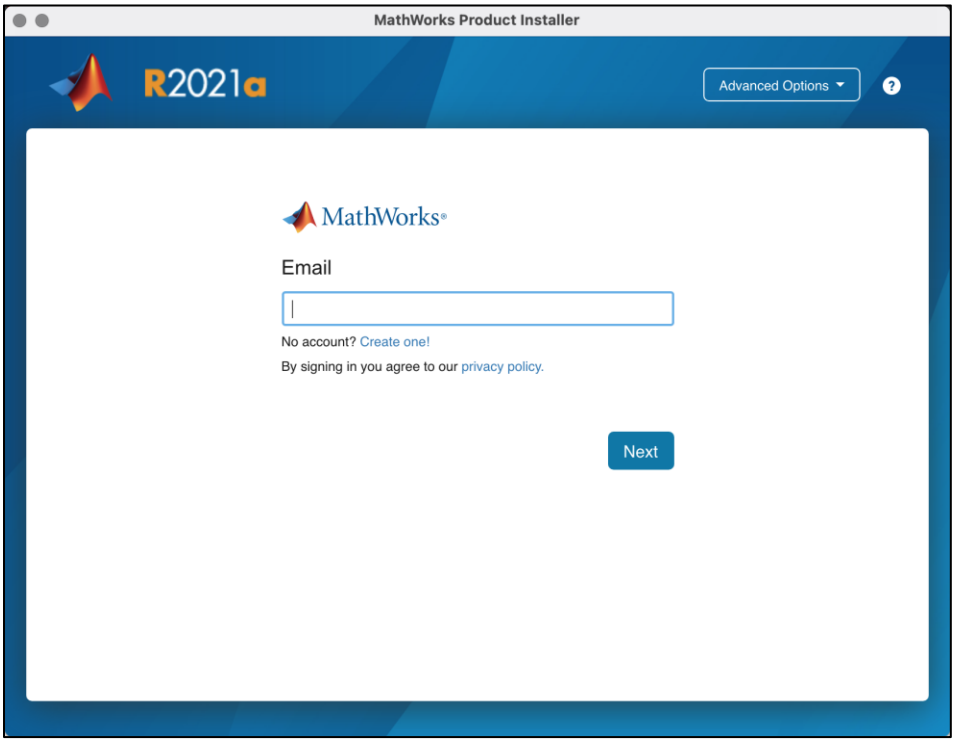

Figure 5: MathWorks Product Installer Sign-in

3. Select your MATLAB license and click the “Next” button as shown in figure 6.

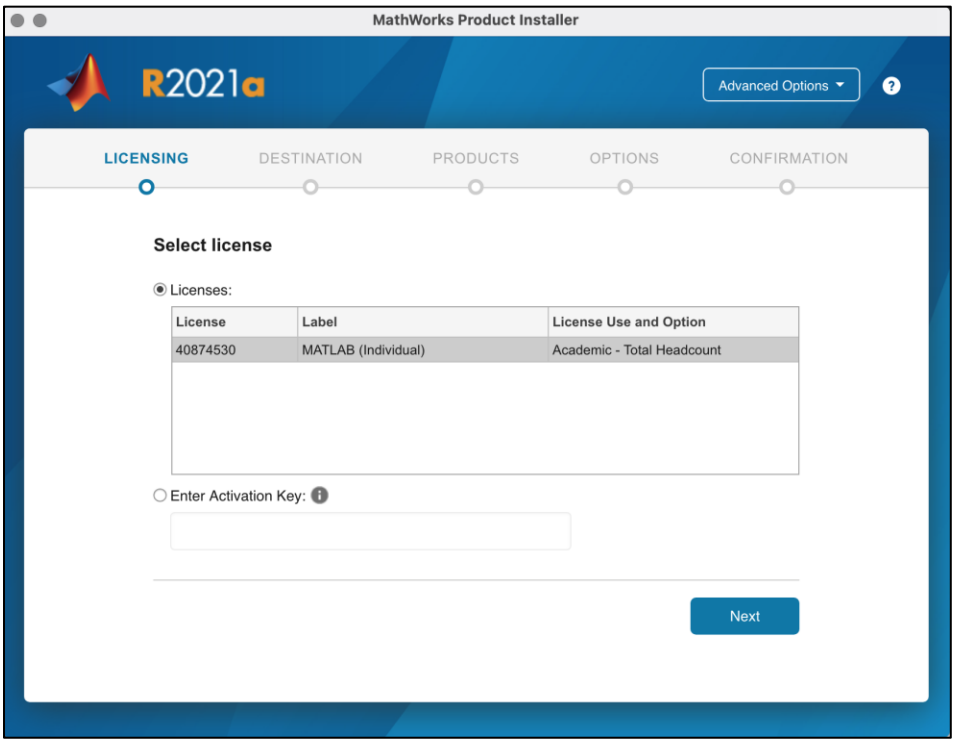

Figure 6: License Selection Prompt

4. You will then be prompted to verify your login information. Do so by following the prompt window.
5. After verification, you will be placed at the "Products" step in the installation, as shown in figure 7. Here we can include the add-on toolboxes that we will use throughout the lab.

Select the following products/ add-ons to install:

- Simulink
- Optimization toolbox
- Simscape
- Simscape Multibody
- Simscape Electrical
- Simscape Fluids
- Simulink Design Optimization

NOTE: There is one more additional add-on, that is needed to be installed. It is the "Show Block Name Toggle & Shortcut Key" add-on. This will allow you to select multiple blocks within Simulink and with a shortcut key, enable or disable the showing of the block names. However, you can only install it once inside MATLAB in the add-on explorer. After the MATLAB installation, you can follow the "Installing Add-on Toolboxes with MATLAB already Installed" section to install it along with any other add-ons you may need or want.

6. After selecting the additional products click the "Next" button

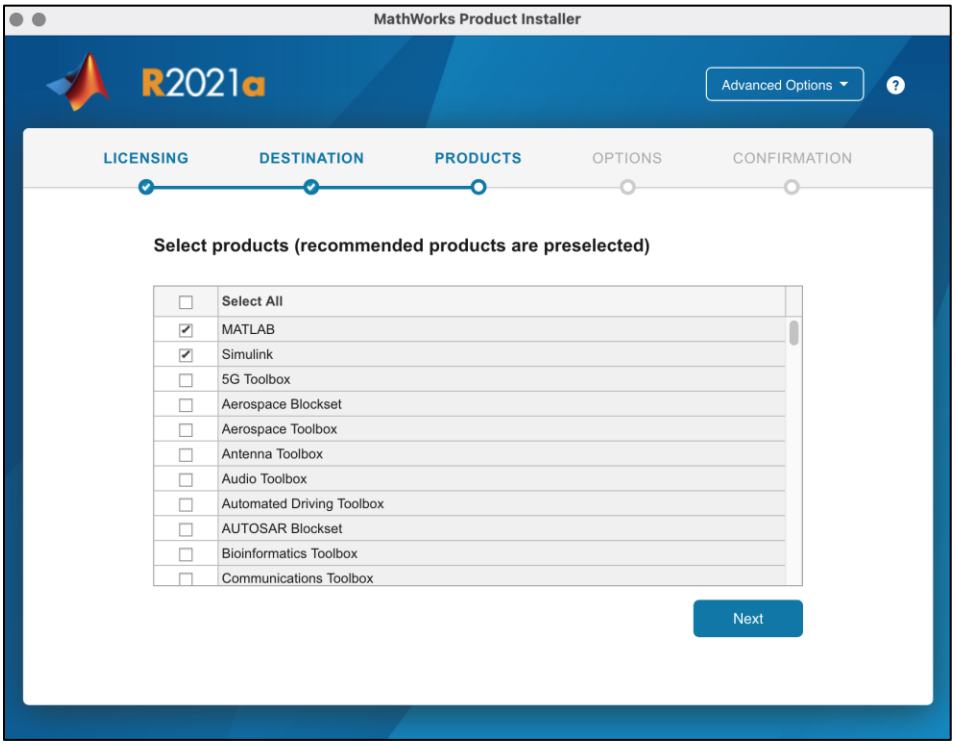

Figure 7: Select products/ toolbox prompt

7. After selecting the additional products click the "Next" button
8. Finish the installation by continuing with the installation prompts.
9. After the Installation confirmation you will now be able to launch and run MATLAB.

Installing Add-on Toolboxes with MATLAB already Installed

This section is intended to be a guide to install the add-on toolboxes for the course if you already have MATLAB installed. Please follow the steps below to access and download add-ons through MATLAB's native add-on explorer.

1. Launch MATLAB
2. Once the MATLAB interface is shown, locate the "Add-Ons" button and drop-down menu at the top right section of the interface, as shown in figure 8. Select "Get Add-Ons".

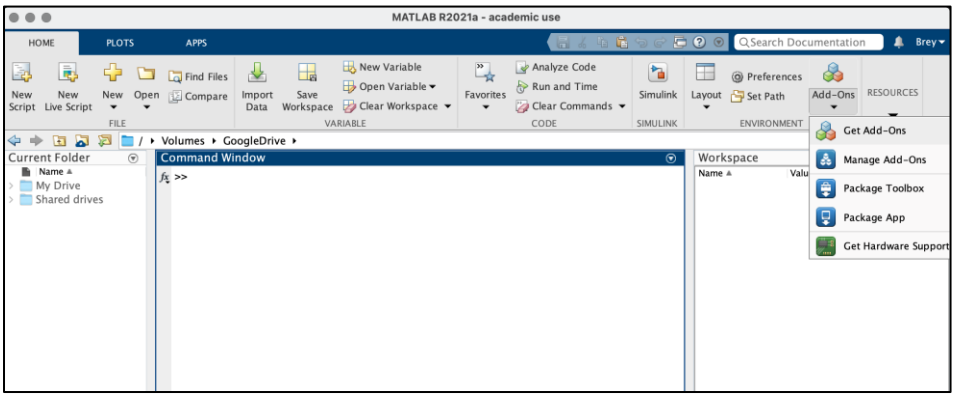

Figure 8: MATLAB Interface & Add-Ons Icon

3. A new window will appear as "Add On-Explorer" as shown in figure 9.

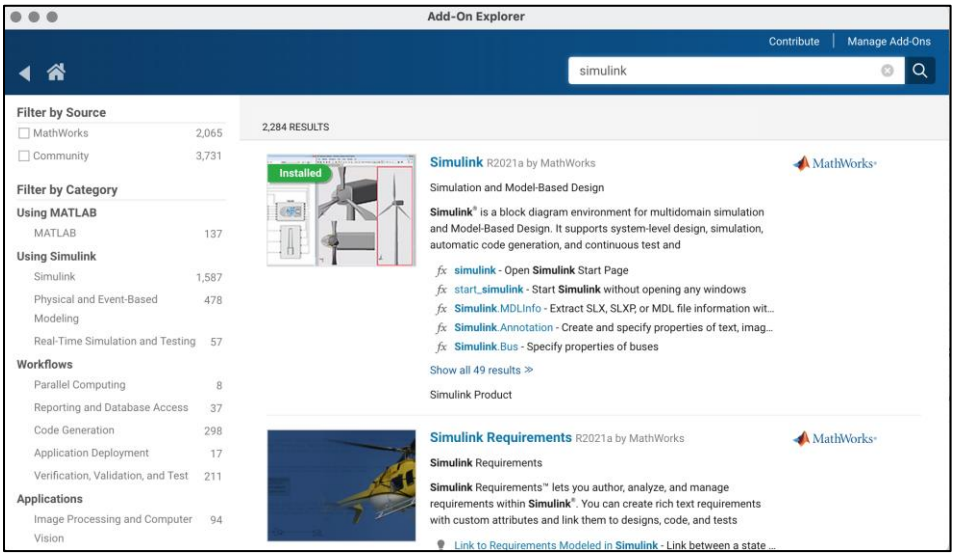

Figure 9: MATLAB Add-On Explorer

4. Use the search bar to locate the listed add-on toolboxes and install them one-by-one. You can access the install link for each add-on after clicking on its title link. Please ensure that you have installed each of the following add-on toolboxes.

Add-on Toolboxes to Install

- Simulink
- Optimization toolbox
- Simscape
- Simscape Multibody
- Simscape Electrical
- Simscape Fluids
- Simulink Design Optimization
- Show Block Name Toggle & Shortcut Key

6. After installing each of the add-ons you can then navigate to the Add-On Manager by clicking on the "Manage Add-Ons" link in the top right-hand corner of the Add-On Explorer window. This will list your installed add-ons and allow you to manage them individually.
7. You should be able to confirm here that you have all the add-on toolboxes as shown in figure 10.

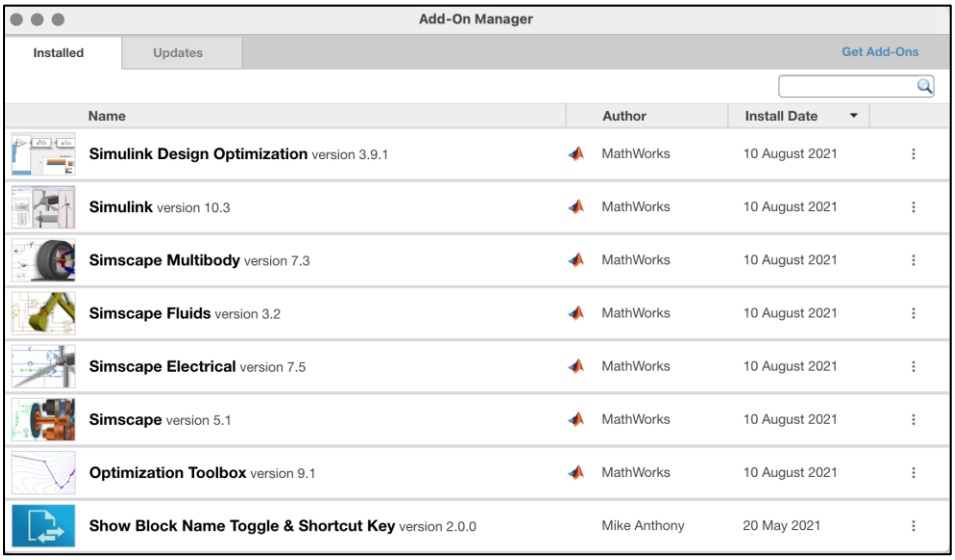

Figure 10: MATLAB Add-On Manager

8. This concludes the installation of all the necessary software for lab. At this point, you have completed the preliminary setup for the MXET 375 lab and are now ready for the future labs.