



Girls into Electronics 2022

Software Installation

Installing the Arduino IDE

The Arduino IDE is available for Windows, Linux, and Mac OS X and can be downloaded from arduino.cc/en/software. Please select the download file for your operating system and follow the instructions.

Downloads

Figure 1. The Arduino IDE starting window showing an empty sketch.

Launching Arduino should show a window like the one in Fig. 2. The IDE settings can be altered via **File > Preferences** where you can change the font, turn on line numbers, and more.

Verify the syntax of your code.

Upload your code to an Arduino-compatible board.

Serial Monitor for communication with the Arduino.

Editing Pane for writing your Arduino program. This is also known as your sketch and is where the two main functions, `setup()` and `loop()` go.

Output Pane where debug messages go.

Target Arduino.

Figure 2. The Arduino IDE starting window showing an empty sketch.

Installing the correct USB Driver

To get started with the Seeeduino Lotus board the CP210x USB Driver for your operating system needs to be downloaded and installed from the Silicon Labs website here: bit.ly/3rT2eD8. The installation files are listed under the “Downloads” tab and will download as a zip file to your computer. The available driver files are shown in Fig. 3.



The screenshot shows the 'Software Downloads' page on the Silicon Labs website. It features a list of software items under the heading 'Software (10)'. The list includes:

Software Name	Version	Release Date
CP210x Universal Windows Driver	v11.1.0	3/22/2022
CP210x VCP Mac OSX Driver	v6.0.2	10/26/2021
CP210x Windows Drivers	v6.7.6	9/3/2020
CP210x Windows Drivers with Serial Enumerator	v6.7.6	9/3/2020
CP210x_5x_AppNote_Archive		9/3/2020

At the bottom of the list, there is a link that says 'Show 5 more Software'.

Figure 3. Downloading the CP210x USB Driver from Silabs at: bit.ly/3rT2eD8.

After the download, the installation procedure is as follows:

Windows install:

1. Using Windows File Explorer, locate the driver folder (that you previously unzipped).
2. Right click on the *silabser.inf* file and select Install.
3. Follow the instructions.

MacOS install:

1. Using Finder, navigate to the downloaded zip file and unzip it (double click).
2. Mount the DMG file and double click on Silicon Labs VCP Driver.
3. On MacOS 10.13 and later, the installation of the driver may be blocked. To unblock, open the System Preferences Security & Privacy pane and unblock the system extension (See Apple Technical Note TN2459 "User-Approved Kernel Extension Loading" for more information).

Installation on other operating systems is not covered here but if you need help read the release notes (or similar) in the downloaded zip file or search online for instructions on “installing CP201x driver” for more information.

After the driver is installed, connect the Seeeduino Lotus board to your computer using the provided USB cable and open the Arduino IDE. In the Arduino IDE click on **Tools > Board > Arduino Uno** to select the correct development board model (refer to Fig. 4). Then click on **Tools > Port > COMN**, where **N** is the port that your operating system has assigned to the Arduino (in this case it is **COM7**). Note that this number may change each time you connect the board.

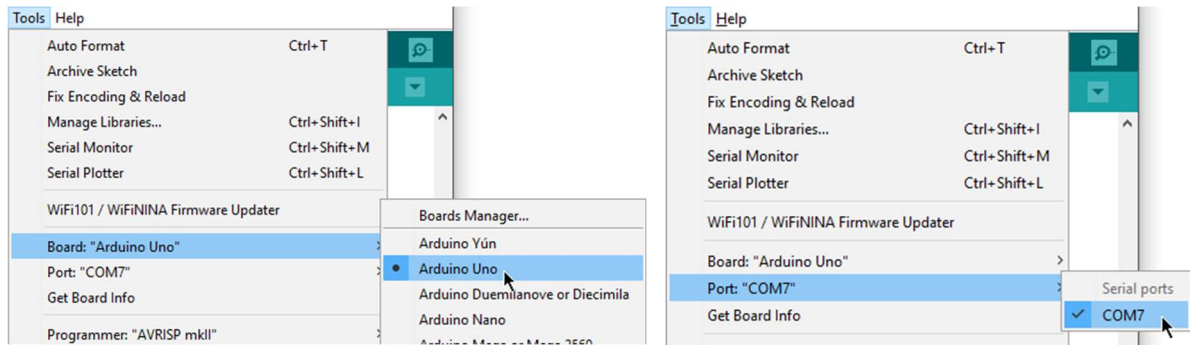


Figure 4. Selecting the correct Board type “Arduino Uno” (left) and choosing the correct COM port once a board is connected (right).

Installing the UKESF Sixth Formers Library

This guide comes with an Arduino library, called *UKESF Sixth-Formers*. A library packs a set of functions that allow you to easily do more with an Arduino that is available out of the box. We’ll worry about the details later, but for now we need to install this library so that it is ready. To do this, in your Arduino IDE go to **Sketch > Include Library > Manage Libraries...**, then type in *UKESF Sixth-Formers* and click **Install** as shown in Fig. 5. Make sure to install the **latest version**, which may be different from the one shown in the figure below.

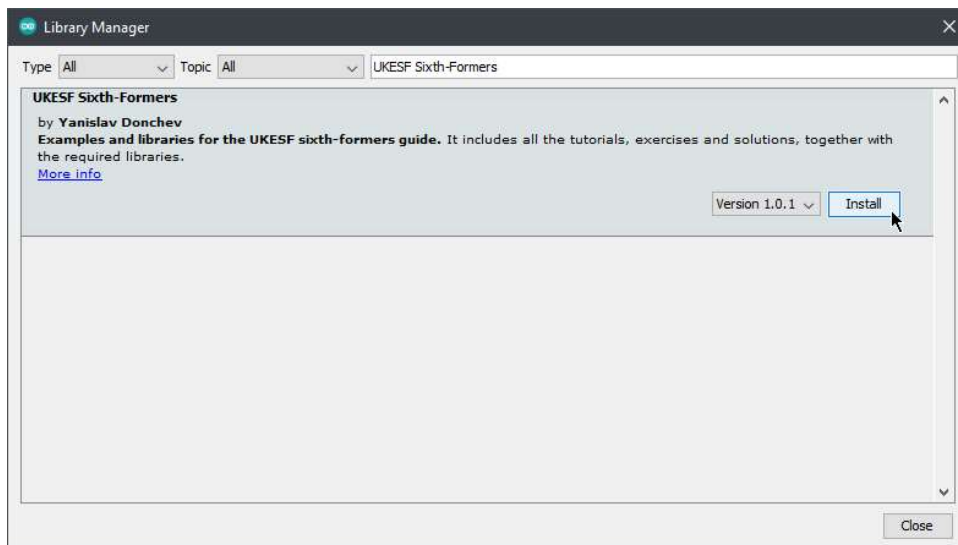


Figure 5. The Library Manager window.