Machinima in Second Life
Class 1 (Revision #1)

There are many tools out there for creating machinima, and many ways to use them. What I'll be going over today is the method I use. It certainly isn't the only way to do it, and if you've done any video recording in SL before you may have used different tools. The advantage of this tool is that it is open source and free to use, while at the same time being very robust.

In this class I won't be getting into the process of editing your video once you've made it, although I might talk about it in a later class. There are some open source editing tools available for everyone to use, but they have limitations and I have not used them myself.

The tool we will be using to create machinima is an open source app called OBS. It is available for all platforms: Windows, Mac and Linux. OBS can be used both for recording and for live streaming video. In this class we will only be looking at the recording features.
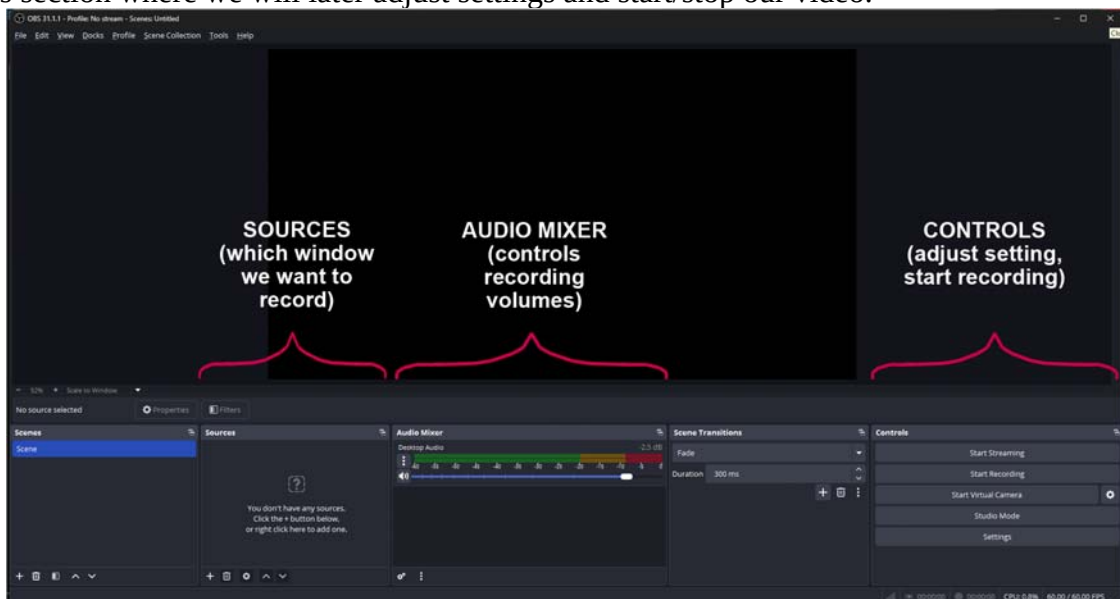
We will be covering three topics today:

A) Setting up OBS to record the full SL screen
B) Setting up OBS to record only a portion of the SL screen. This lets you display other parts of the SL interface elsewhere on your screen (chat windows, etc), which will not be included in the recording.
C) Adjusting some SL preferences for video.

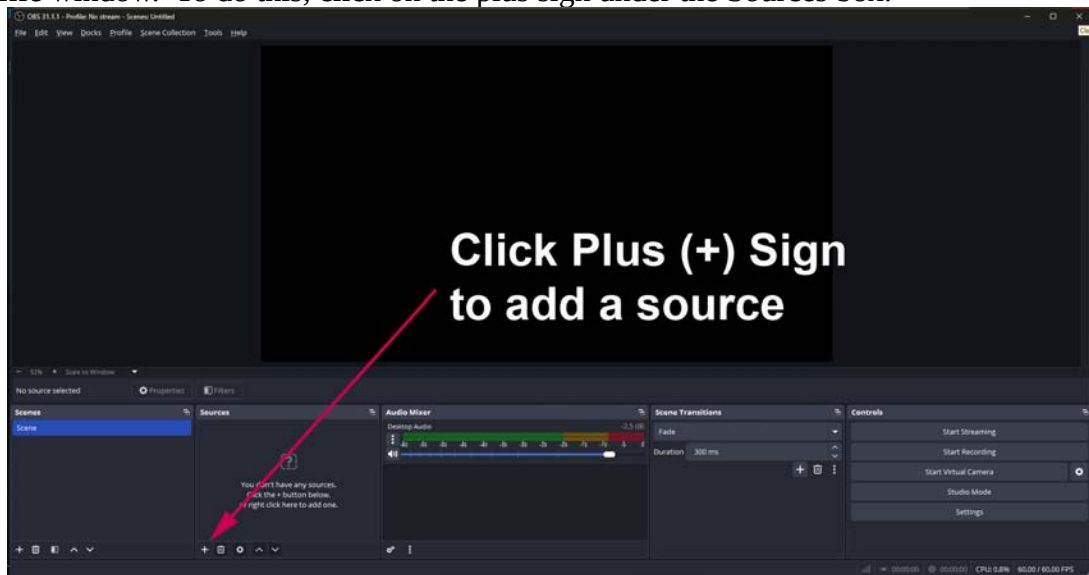# A. OBS Setup for Full Screen Recording

1. If you don't already have it installed, please download OBS from their website at
https://objproject.com. Download and install the version that is appropriate for your operating system
(Windows, Mac, Linux).

2. After installing OBS, please start up a Second Life session (if you haven't already done so.) I'm
using the Firestorm viewer, but you can use whatever viewer you are comfortable with.
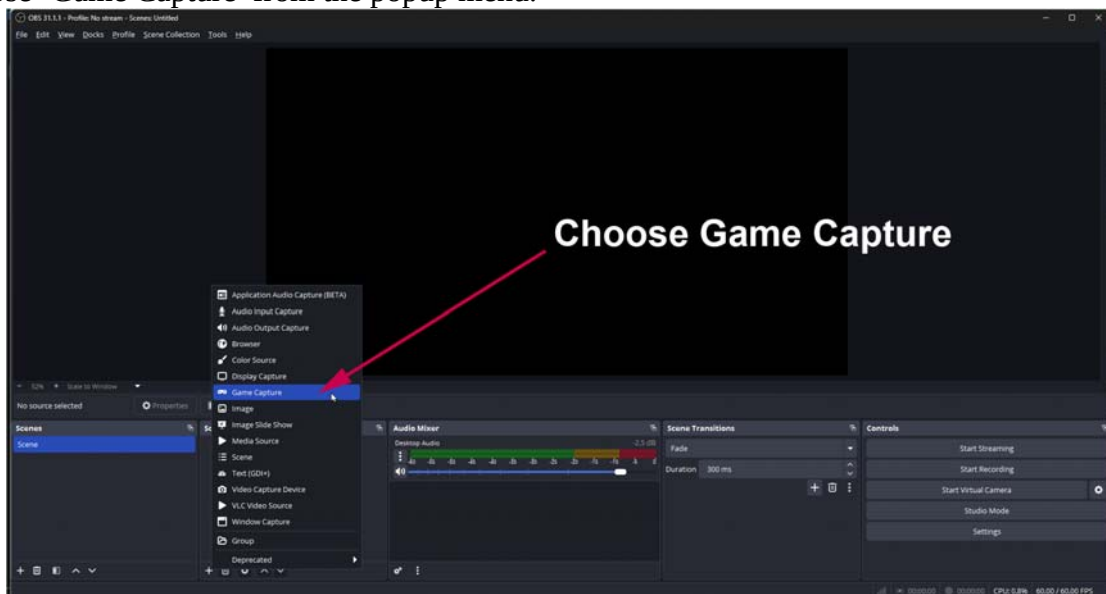

3. When you first open OBS, this is what you should see. Some areas you will see on the screen are
Sources (windows that we want to record), an Audio Mixer for viewing and adjusting volumes, and a
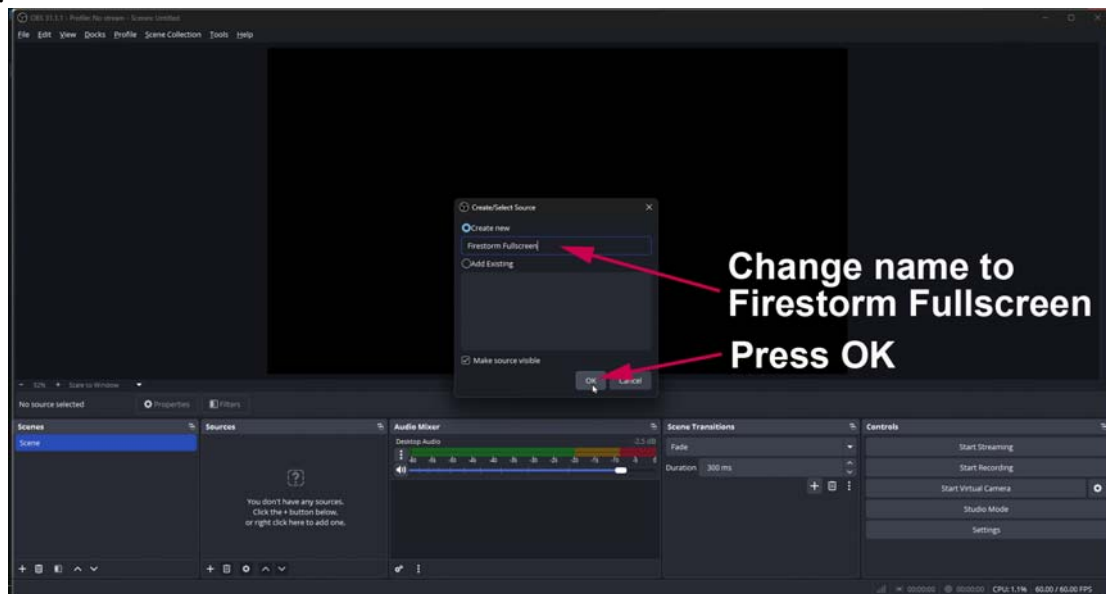Controls section where we will later adjust settings and start/stop our video.

4. Before we can do anything, we will need to first create a source, which in this case will be our Second Life window. To do this, click on the plus sign under the Sources box.
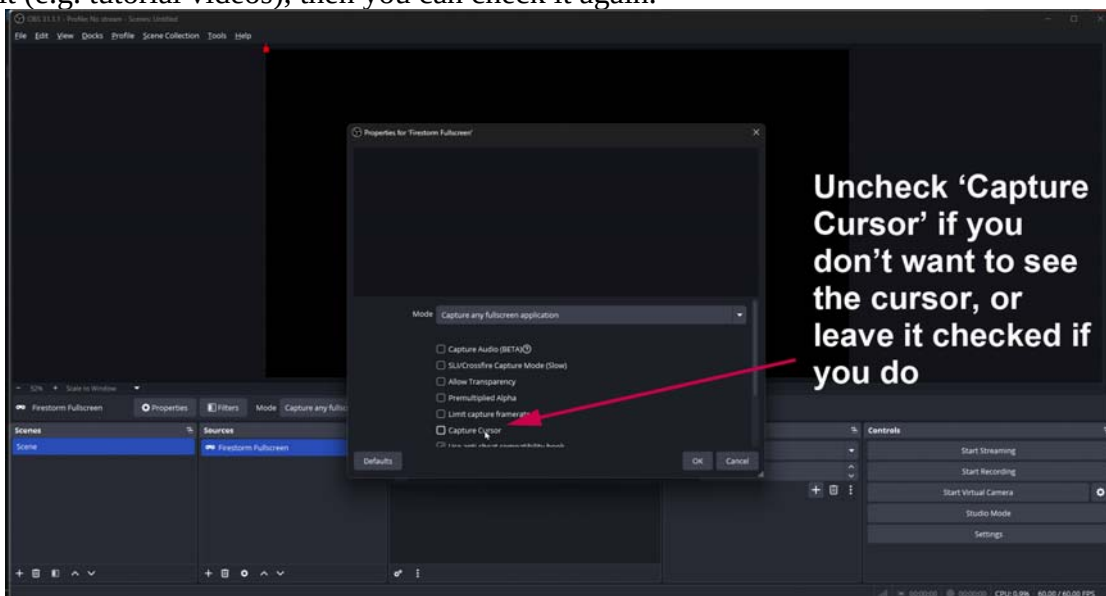

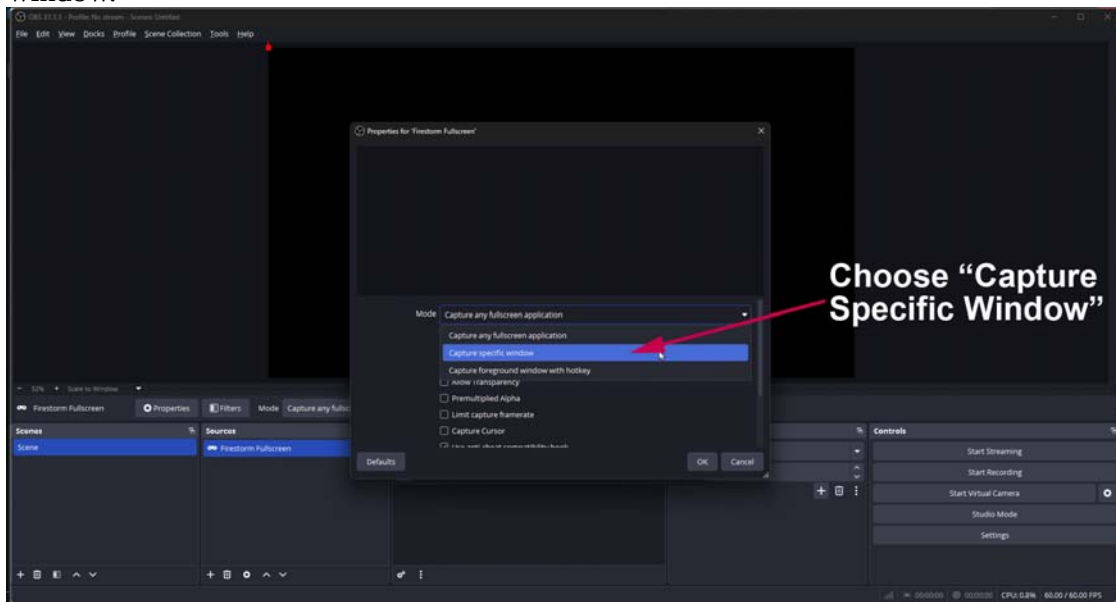5. Choose 'Game Capture' from the popup menu.

6. Change the source name from Game Capture to 'Firestorm Fullscreen' and press OK. (I'm calling this one Fullscreen because later we will create a modified source that will let us record only part of the window.
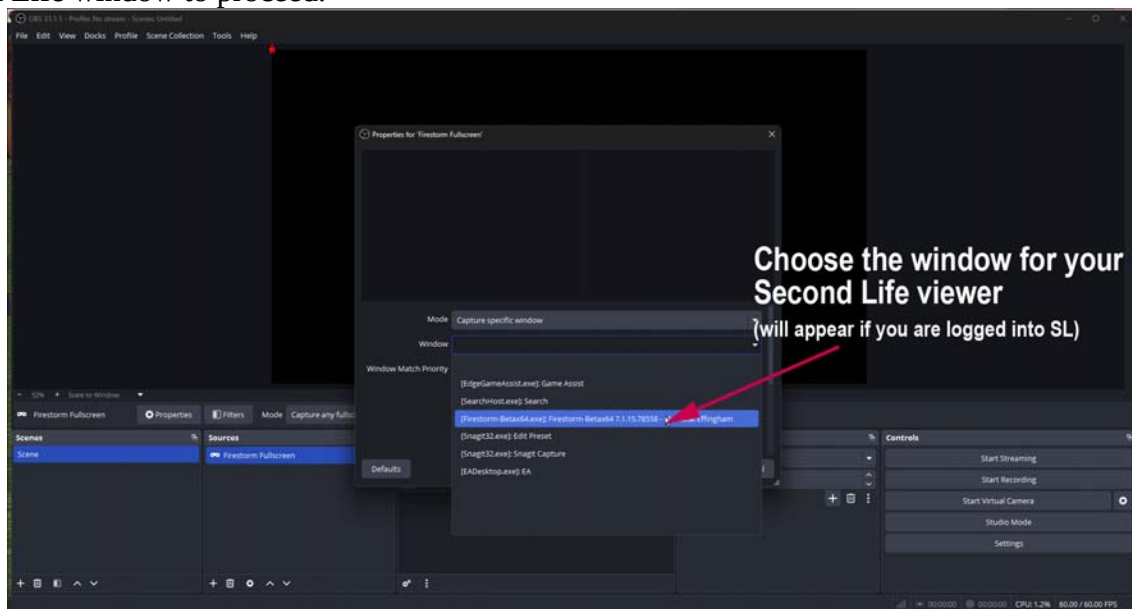

7. There are several options that control how the video will be captured. An important one to consider is "Capture Cursor". This box is checked by default. For many videos you will not want the cursor to display on screen, so you will want to uncheck this box. If you're doing videos where you do want to capture it (e.g. tutorial videos), then you can check it again.
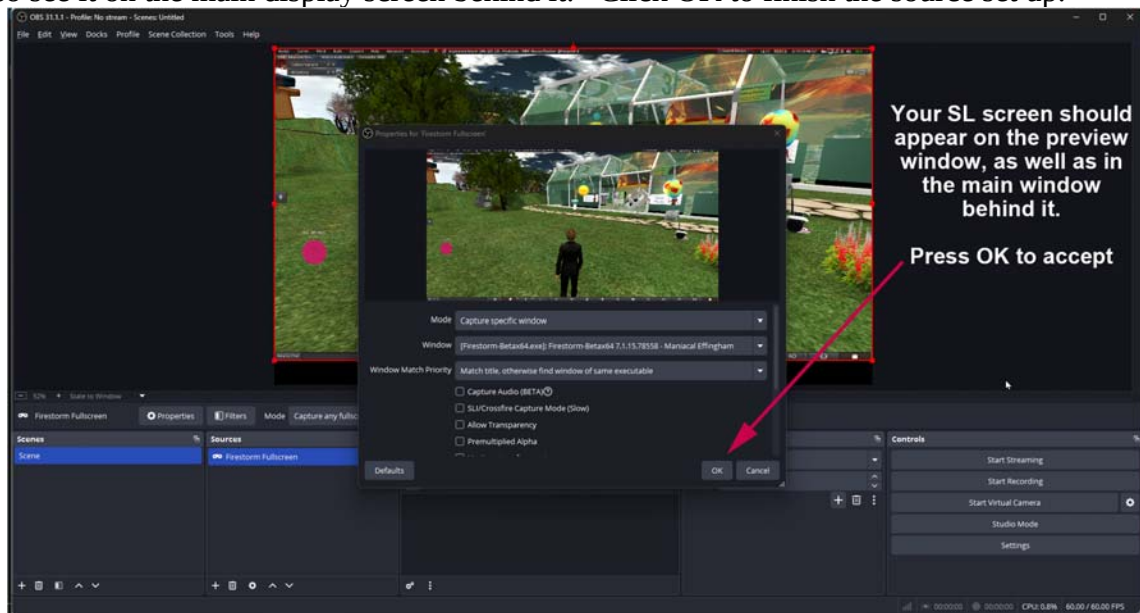
8. Next, click on the drop down "Capture any fullscreen application" and change it to "Capture specific window."

9. When you click on the Window box, you should see the name of your Second Life window in the list. Click on it to select. It is important that you are currently logged into Second Life when doing this, otherwise the window name will not appear. If that happens, close OBS, log into Second Life, and restart OBS. You can then select the Firestorm Fullscreen source you already created, and choose the Second Life window to proceed.
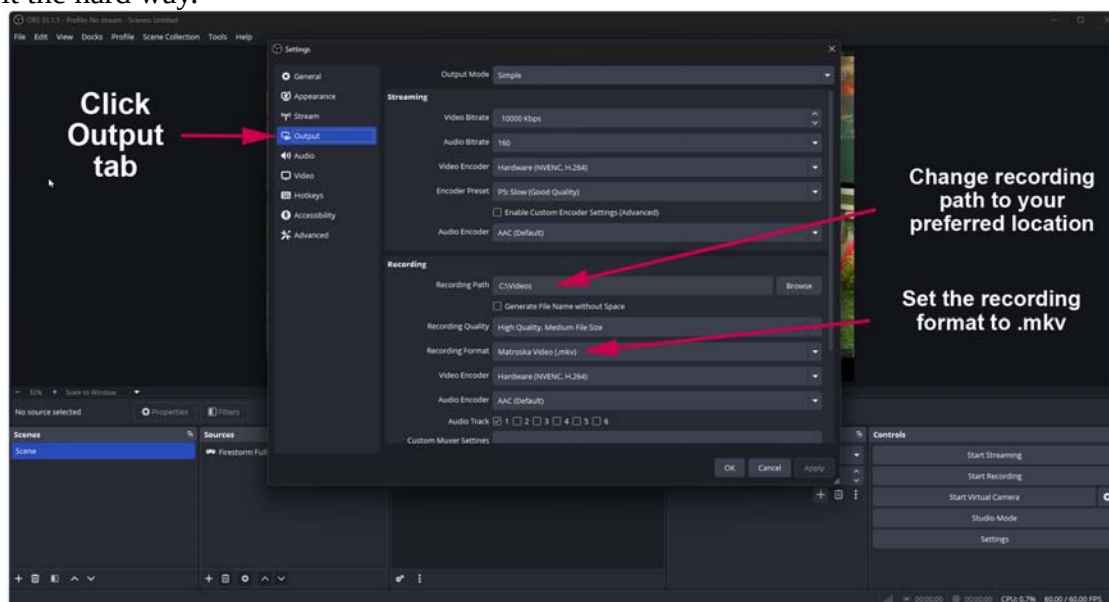
10. After selecting the Second Life window, it will display the contents in the preview screen and you will also see it on the main display screen behind it.   Click OK to finish the source set up.
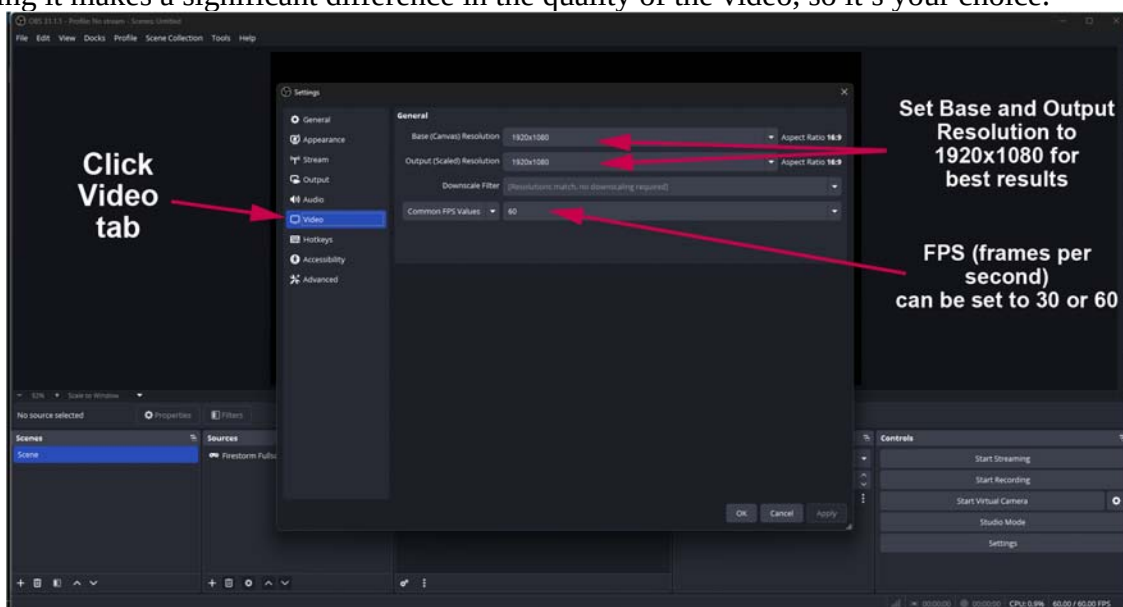

11. Next we're going to adjust some of the main OBS recording settings. These will only need to be set up once, unless you have a reason to change them later. Click the Settings button to get started.
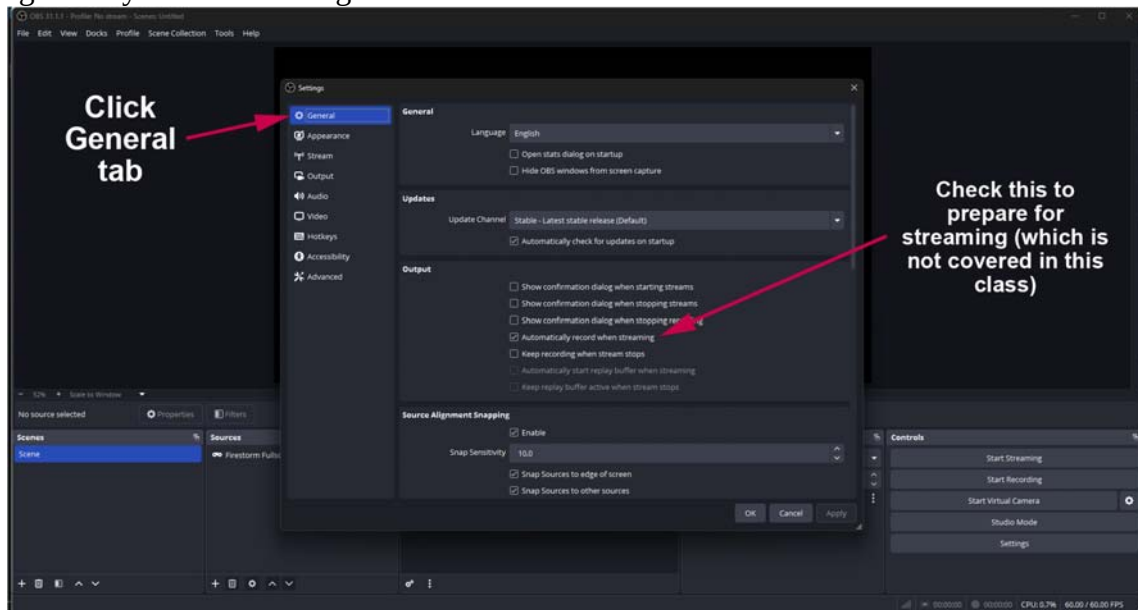
12. Click the Output tab on the left, and set up the recording path and recording format as shown. We are using MKV format rather than MP4, because if OBS should crash while recording, MKV will save a partial recording, whereas with MP4 the recording will be lost. This has happened to me before, so I learned it the hard way.

13. Click the Video tab on the left, and set both the Base and Output Resolutions to 1920x1080. If you plan to record for VWEC or for VWBPE, you will need the resolution to this level. The FPS (frames per second) can be set either to the default of 30, or can be increased to 60. I'm honestly not sure if increasing it makes a significant difference in the quality of the video, so it's your choice.

14. Finally, click the General tab on the left, and put a check in the box "Automatically record when streaming." Setting this won't affect anything we'll be doing for this class, but is extremely helpful to have checked if you are ever livestreaming, because it will ensure that you always create a backup recording while you are streaming.

15. To start recording your screen, press the Start Recording button Once you are finished recording, click Start Recording again to toggle it off. The video will be stored in the location you chose in Settings.
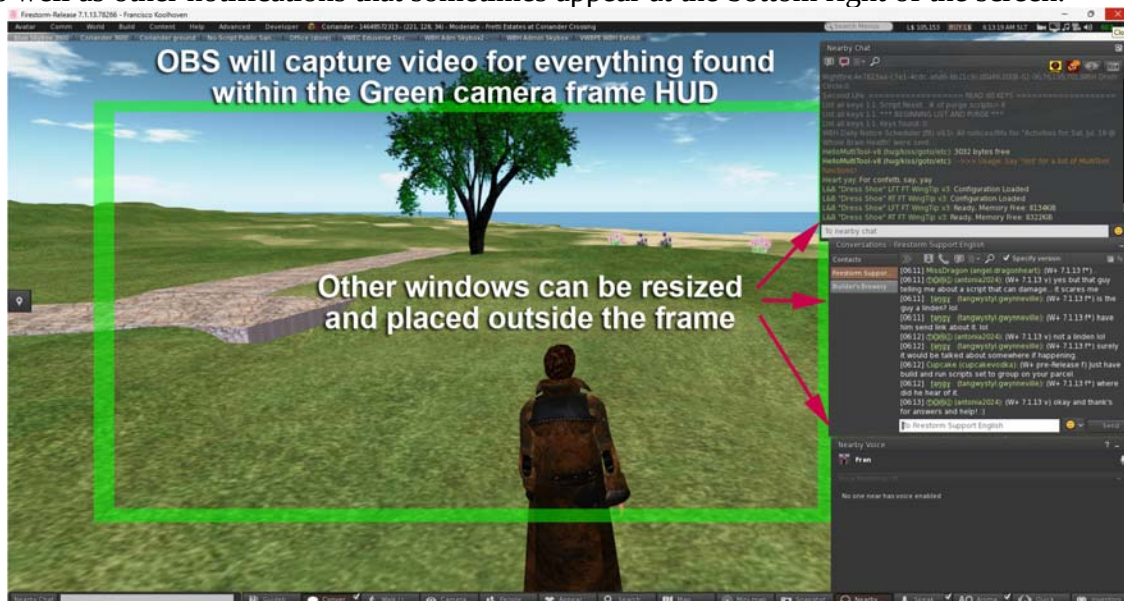
B. Using the Camera Frame

There is a problem with recording the full Second Life screen. For a clean video, you will need to hide all aspects of the interface, including chat windows, a list of nearby avatars, nearby voice, etc. – information that can be very useful while recording.

Kevin Feenan, founder of Rockcliffe University in SL, came up with a solution to this that involves wearing a special frame HUD, along with making some adjustments to the viewing window in OBS, which allows you to record only a portion of the SL screen.
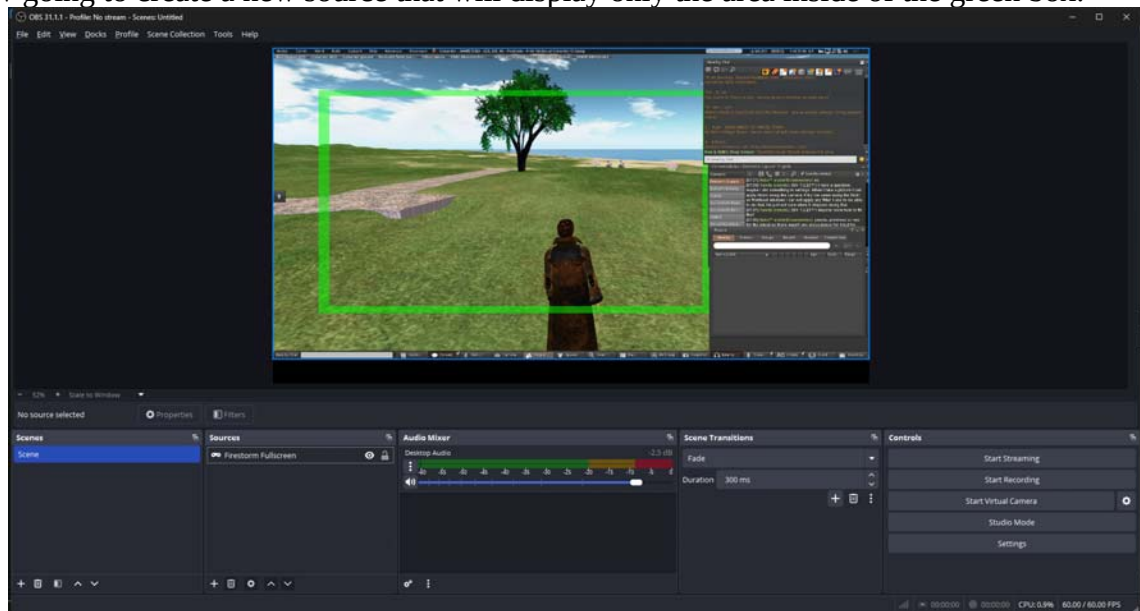
16. Here is what your screen looks like when you wear the camera frame HUD. Only the area within the green frame will be recorded, leaving other parts of the screen free to display other interface windows. The frame's position isolates it from group notices and other pop-ups happening at the top right, as well as other notifications that sometimes appear at the bottom right of the screen.
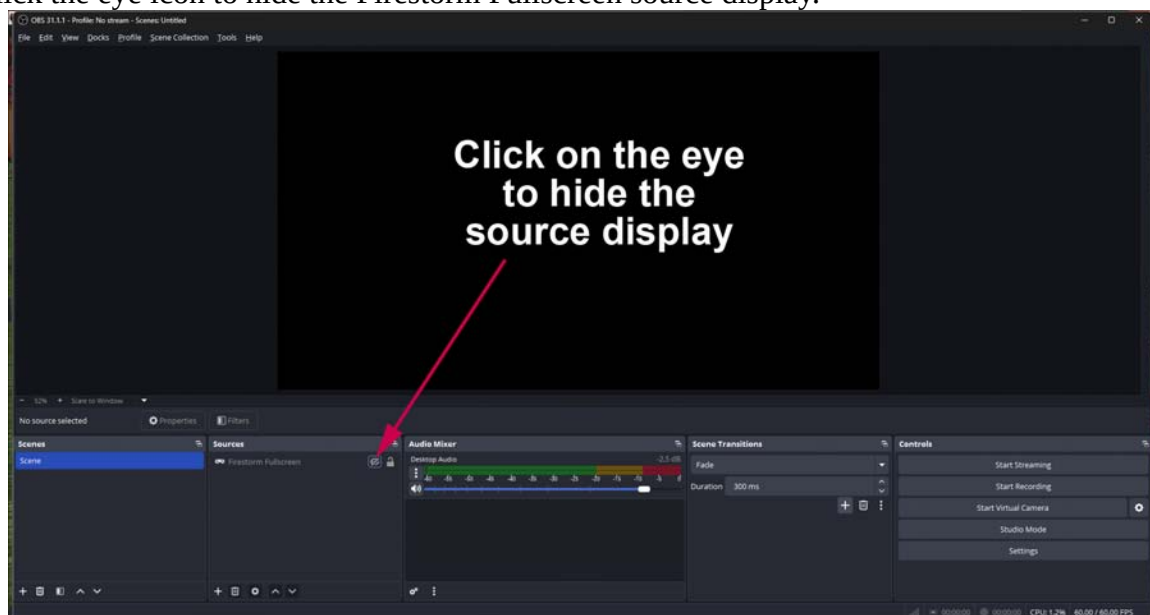

Add the Camera Frame HUD provided in the class supplies (contact Francisco Koolhoven if you need one.)
If you click on the green frame, it will display some red alignment markings inside that can help you to center objects within the frame. Clicking the green frame again will hide the red markings.
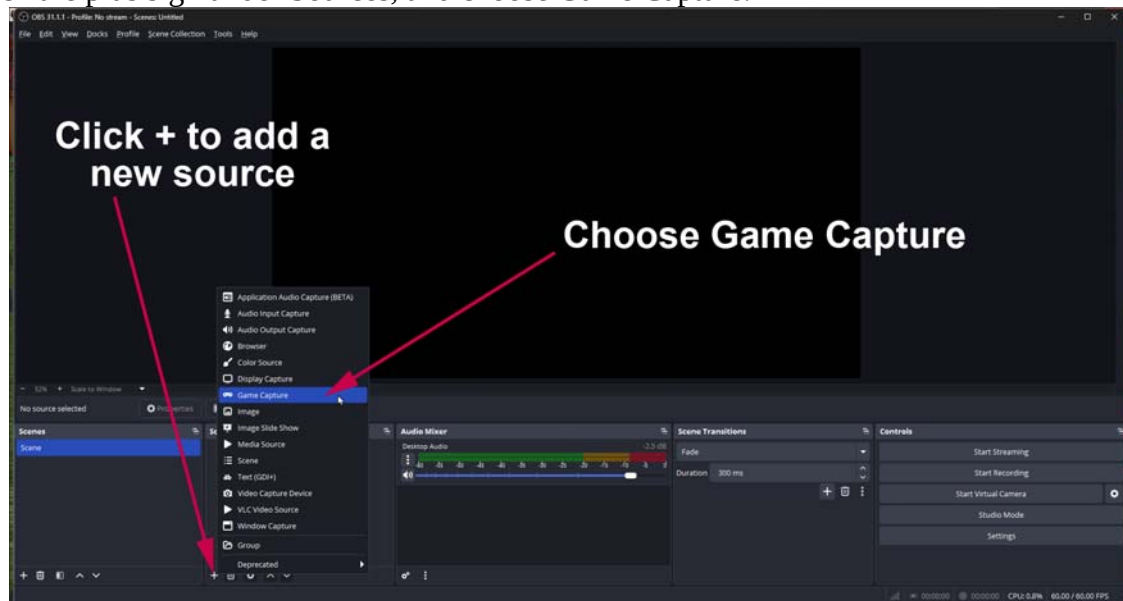
17. Now let's go back into OBS. There you will see the full SL screen including the green box. We are now going to create a new source that will display only the area inside of the green box.
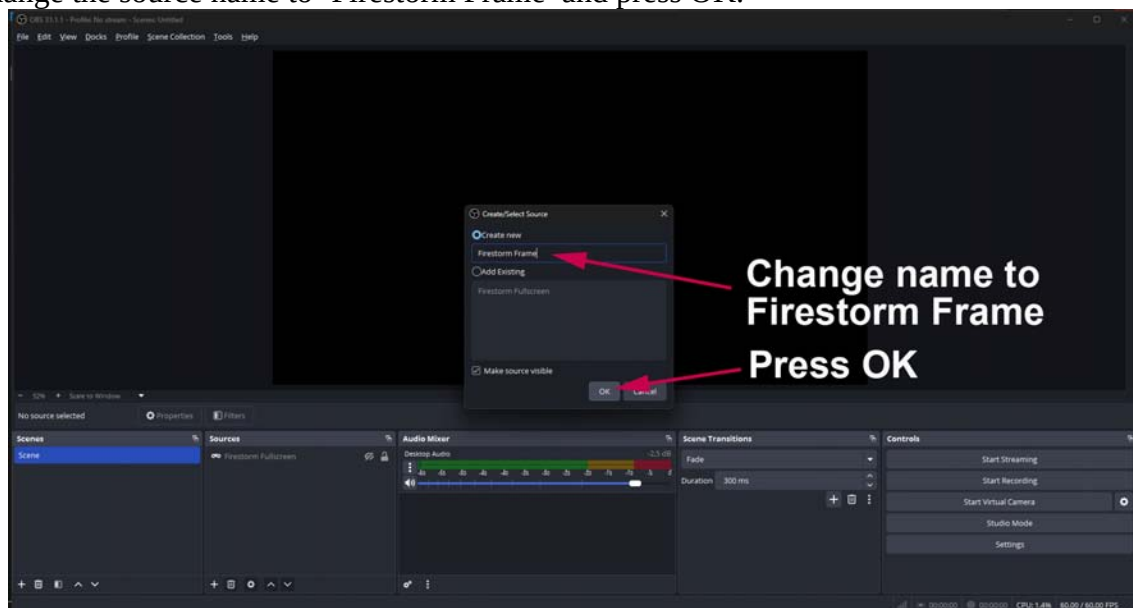

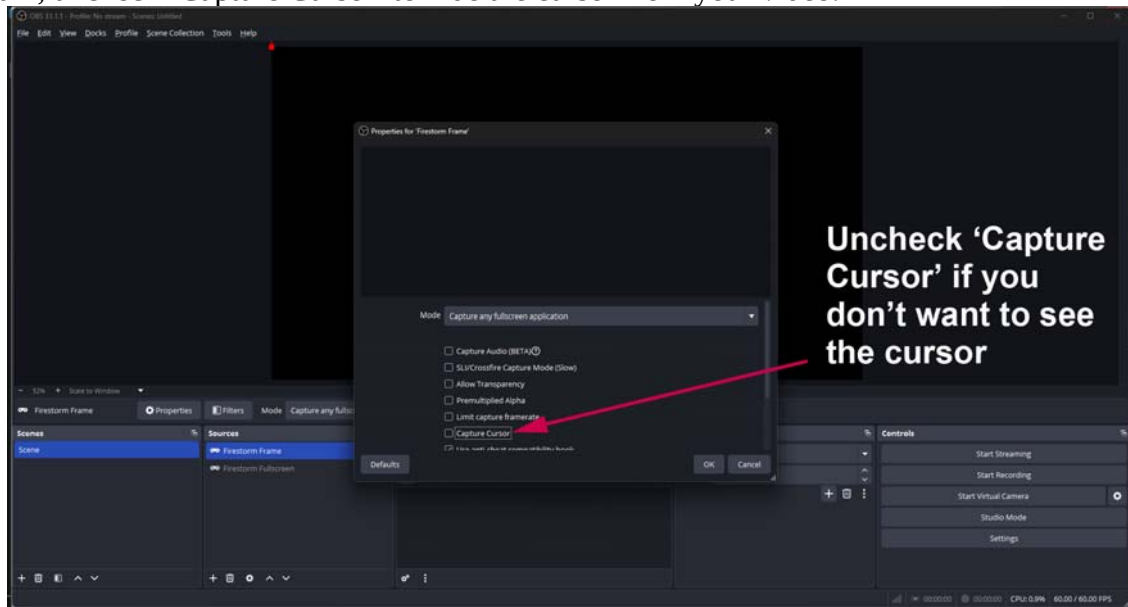18. Click the eye icon to hide the Firestorm Fullscreen source display.

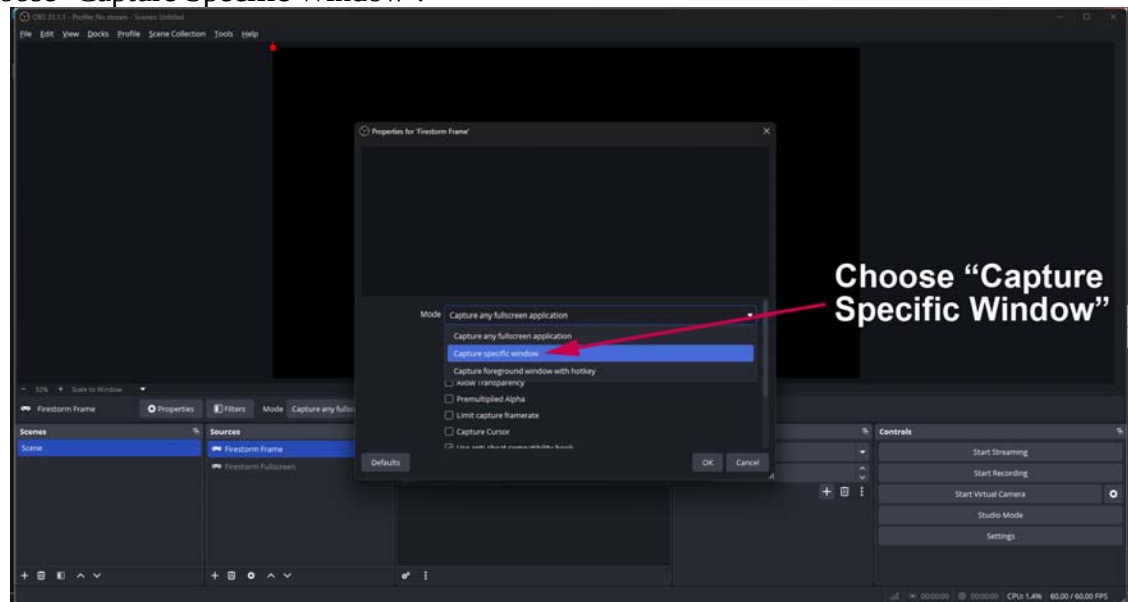19. Click the plus sign under Sources, and choose Game Capture.

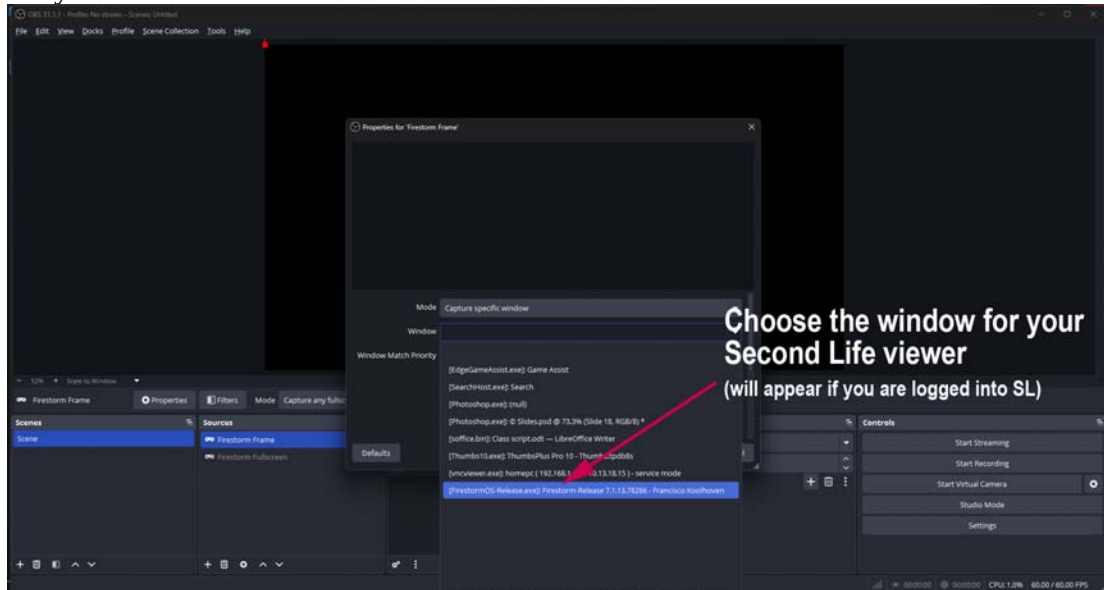20. Change the source name to 'Firestorm Frame' and press OK.

21. Again, uncheck 'Capture Cursor' to hide the cursor from your video.
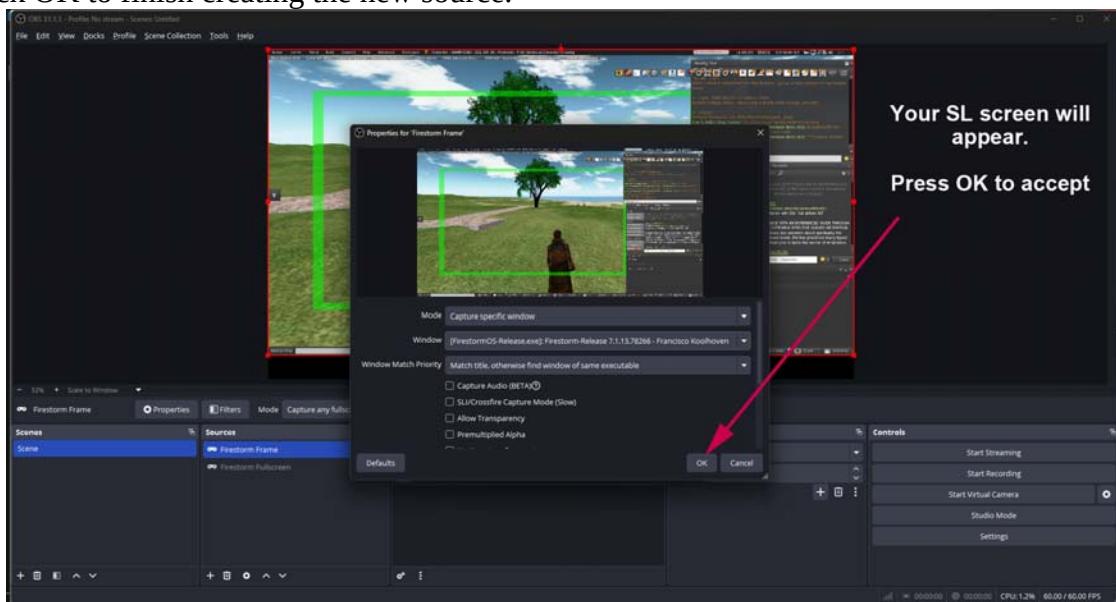

22. Choose 'Capture Specific Window'.
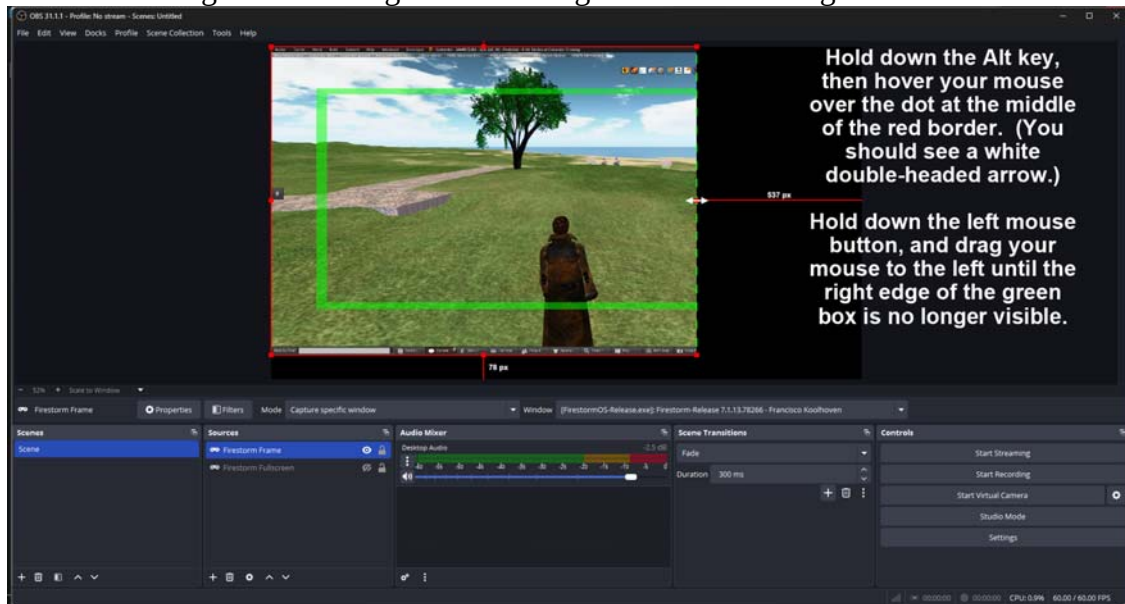
23. Choose your Second Life window.

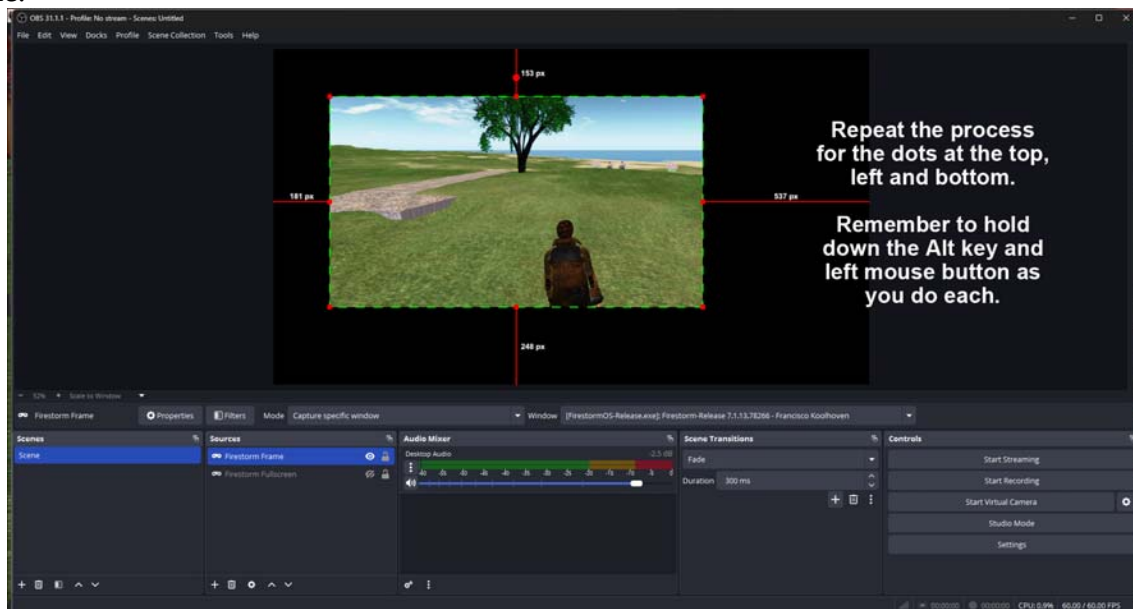24. Click OK to finish creating the new source.

I've recently discovered a much easier way to crop the video screen to show just the portion you want it to show. Here's what you do:
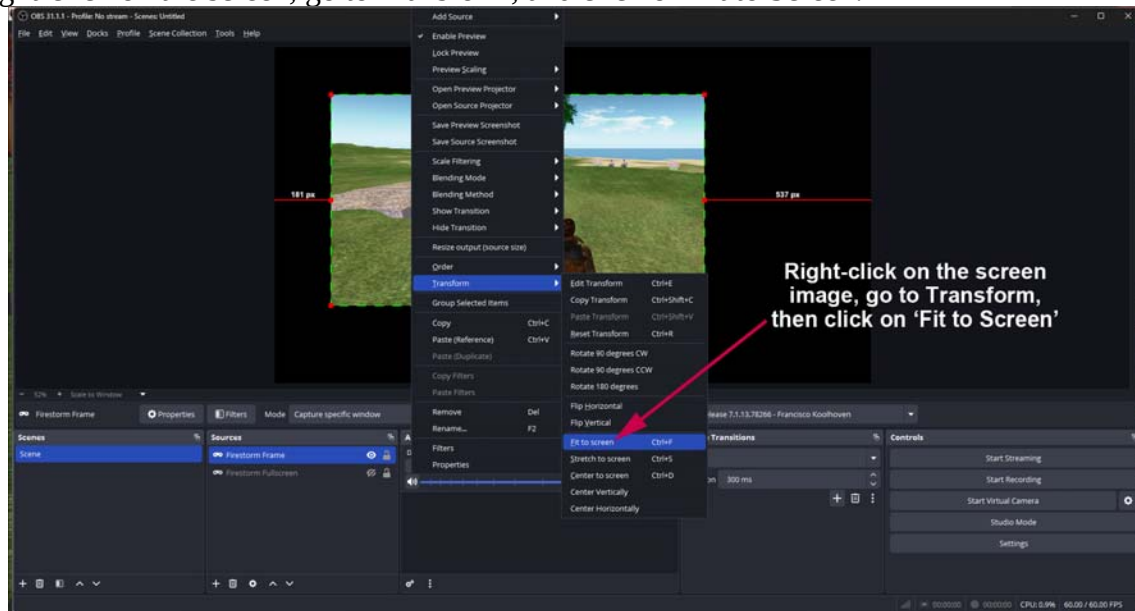
25. There is a red border around the outside of the SL window within OBS. **(If you don't see the red border, try clicking inside the window.)** We will start by moving your mouse onto the red dot along the right side in the middle. The cursor should change to a double-headed arrow. Keeping your mouse on top of the red dot, hold down either Alt key on your keyboard and then hold down the left mouse button. Begin dragging your mouse to the left while continuing to hold down on the Alt key and the left mouse button. Drag it until the right side of the green box is no longer visible.

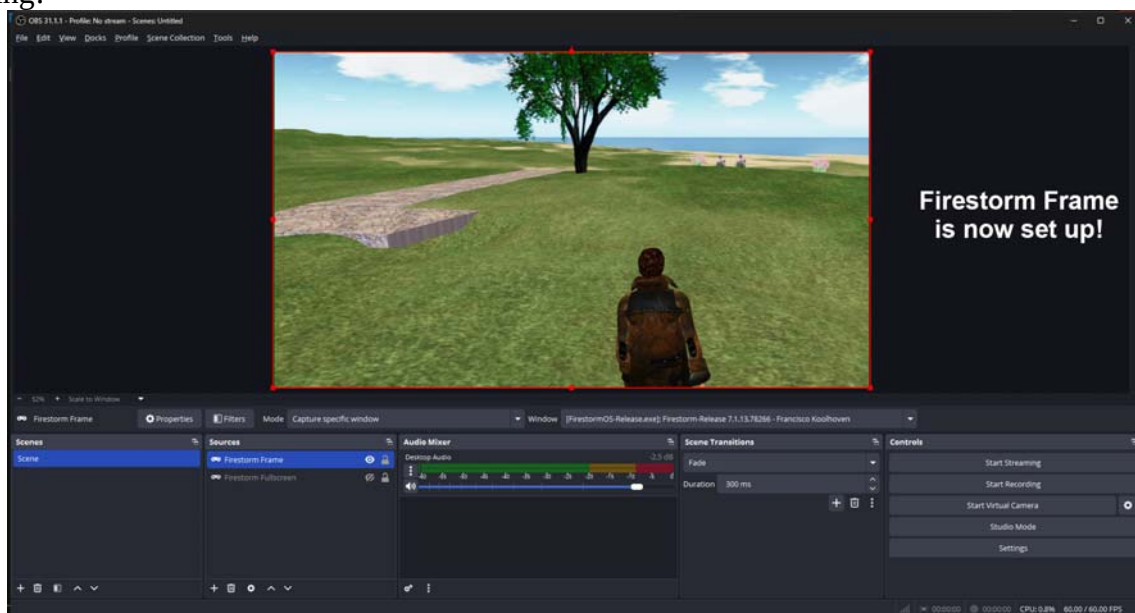26. Repeat the above process for the dots at the top, left, and bottom edges. Remember to hold down both the Alt key and the left mouse button while dragging each. Your screen should look as shown in the slide.

27. Right-click on the screen, go to Transform, and click on Fit to Screen.

28. Congratulations, you're finished setting up the Firestorm Frame source, and can now use it for recording!
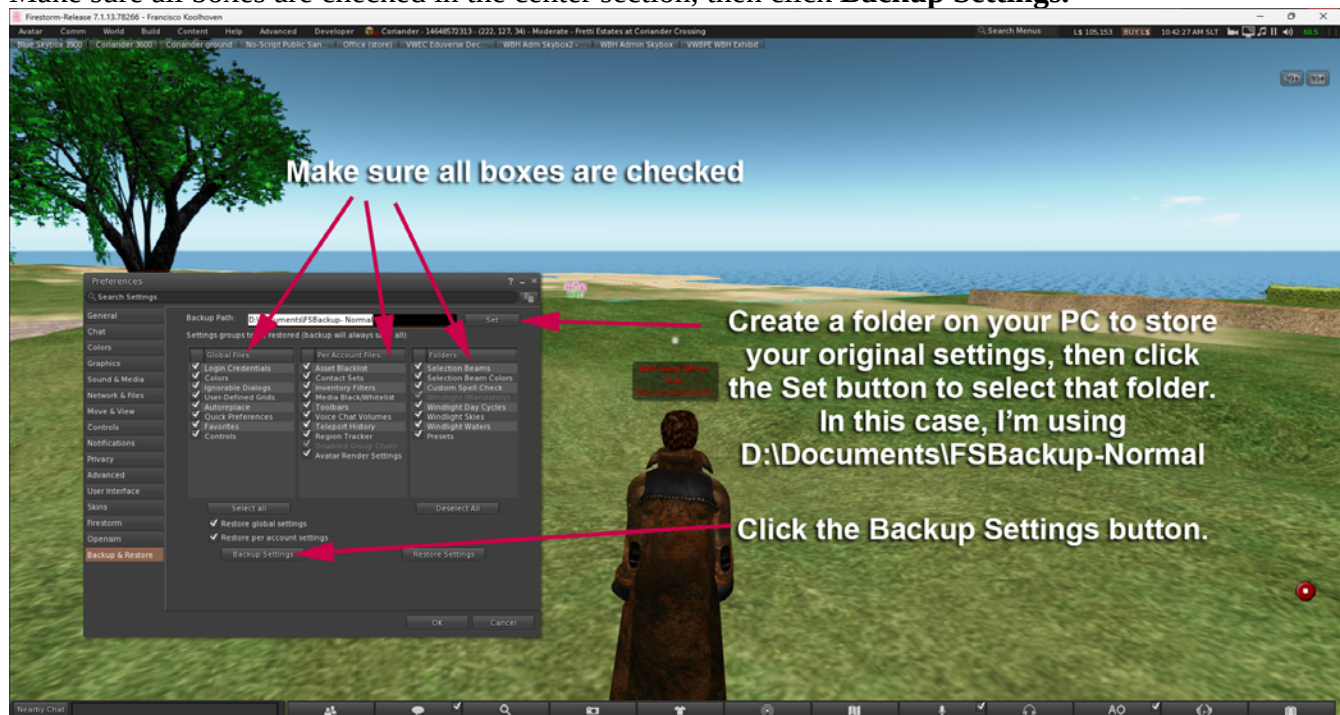

C. Adjust SL Preferences

At **https://kool-tech.me/machinima-class-1** you will find two PDF files: A copy of this document, and a document explaining how to modify your SL preferences to optimize video recording while using the Camera Frame HUD.

I'm not going to go through all of the preference changes listed there, you can do those yourself later. What I will go over is the process of backing up your current settings so they can be restored later. Note that this will only work for the Firestorm viewer, since Second Life does not provide a way to back up settings You could manually back up your SL settings files from the folder they're stored in, but I don't have instructions ready to give you for that… so my advice for now is to use Firestorm if you can.

29. To back up your current settings on Firestorm, go to Avatar>Preferences, and click the Backup & Restore tab along the left. Under Backup Path, click the Set button and choose a location where you want to store the current settings. I suggest you create a folder under your Documents folder to store the settings, which I'm calling **FS-Normal.**
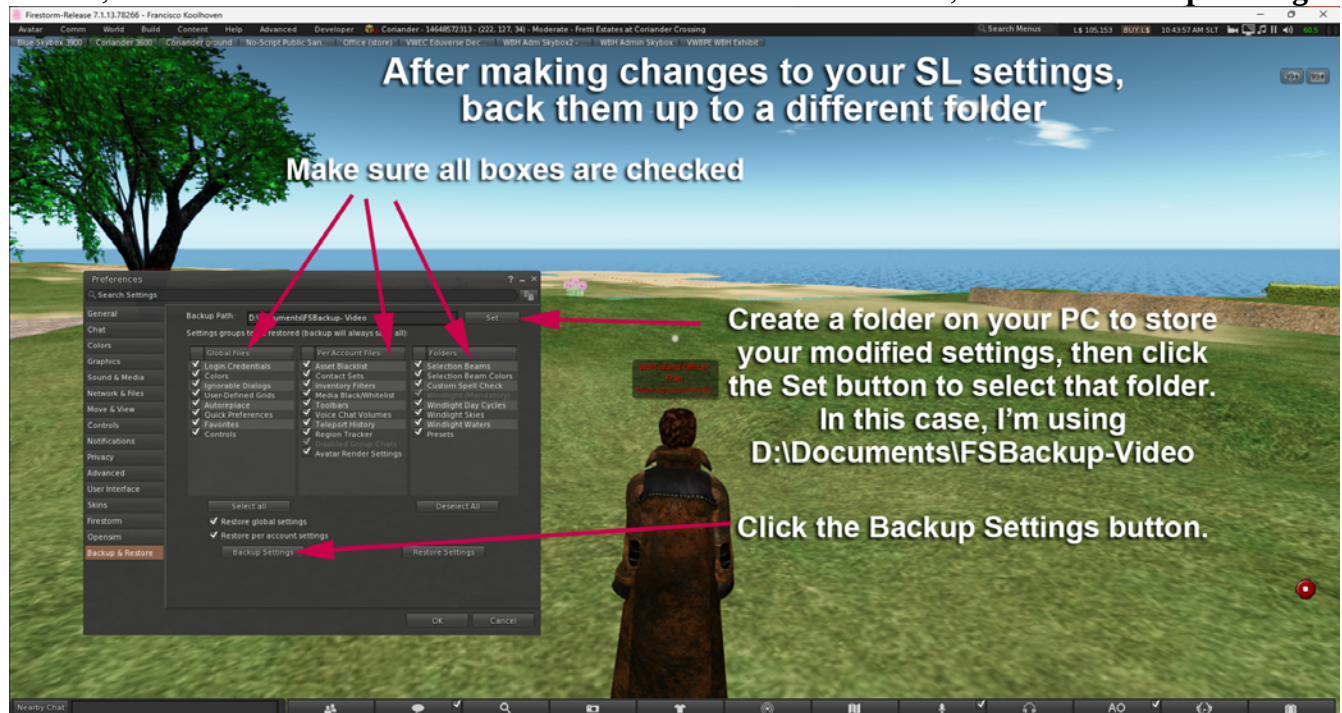Make sure all boxes are checked in the center section, then click **Backup Settings.**

After doing this, make the preferences changes listed in the document.

30. Now make another backup, but this time direct it to a new folder that you create. I'm calling my folder **FS-Video**, but you are free to choose a different name if you like.
In the Backup & Restore tab, click the Set button and assign the Backup Path to the new folder you created, **FS-Video**. Make sure all boxes are checked in the center section, then click **Backup Settings.**

Now, anytime that you want to select a particular set of preferences, select the appropriate folder under Backup Path and click Restore Settings. Restoring settings will cause Firestorm to shut down so that it can load the new settings.

Addendum – Video Editing

There are software packages that will let you perform tasks like editing and merging multiple videos together. These include Adobe Premiere Pro, DaVinci Resolve, and Camtasia Studio. Each of these is proprietary software and must be purchased to be used. I currently use Camtasia Studio for my video editing, but may be changing because they recently moved to a subscription service requiring an annual fee.

One open source and free alternative is Shotcut, available at https://shotcut.org. I haven't worked with the program enough to evaluate its capabilities. I did find several tutorial videos available for it.