Sensei Format & the Blender Crash Course were created with each other in mind. The idea being, make Blender easier to learn and use. Sensei Format removes tedious and difficult to remember steps from hundreds of common 3D modeling and animation tasks.

Learning a 3D program is similar to learning a programming language. Once learned, transferring your skills is fairly simple. Sensei Format helps you learn core CG disciplines faster. This makes understanding how these disciplines work together much easier, ultimately increasing your potential of successfully completing large scale projects.

After completing the Crash Course, you’ll not only be able to better understand tutorials found elsewhere online, you’ll be able to spot redundancies & vastly expand upon what you’ve learned. This is because you’ll understand the tools you’re using, not just what to press & when.

While this manual is useful, it doesn’t cover all Sensei Format features in depth. To get the most out of Sensei Format, take the full Blender Crash Course available for free at blendersensei.com/blender-crash-course. A full, online manual is currently in production.

THANKS!
-Blender Sensei
NOTES TO BLENDER VETERANS:

Enabling the “Emulate 3 Button Mouse” disrupts Blender hotkeys (even without Sensei Format). Leave it disabled and get a 3 button mouse.

The “Select With: Right” mouse option in Blender (Blender default) can not be used. Some Sensei Format code and settings are dependant upon using left mouse selection mode.

The “Emulate Numpad” option should be left off. Sensei Format already assigns the standard 1-9 top keyboard keys to view keys. 1-2 (front/back), 3-4 (left/right), 5-6(top/bottom), 7(persp/ortho), 8-9(rotate).

See the “General Information” page to learn more.

LINUX SELECTION ISSUES:

Linux systems such as Mint or Ubuntu annex the Alt key (as of 2015). This interferes with a lot of programs. In Blender, it means you can’t edge loop select or use other necessary hotkeys which use the Alt key. There are ways to get around it such as remapping your system Alt key to your keyboard’s generic OS key (aka little Windows key if using Windows keyboard). For instructions on this see internet.

Stuff you need...

You need a 3 button mouse. The kind with a scroll wheel (the scroll wheel actually is the 3rd button).

A drawing tablet is optional, but it’s recommended if you’ve got one.

You need a computer.
INSTALLING SENSEI FORMAT

1. Go to www.blender.org/download/ and click "Download Blender".
2. Download and install Blender.
4. Open Blender and click "File" then "User Preferences".
5. Click "the Add-ons tab" at the top of the screen then press "Install Add-on from file".

IMPORTANT NOTES:
- Sensei Format was designed to work with the latest, stable, official releases of Blender from blender.org's official download page (blender.org/download). Using test or 3rd party builds of Blender may produce unexpected results.
- Our addons are designed to work as non-intrusively with other scripts as possible, but there's no guarantee other developers take the same precautions we do, which means it's possible some addons may cause issues with Sensei Format functionality. If you experience an issue, please report it on the Sensei Format help forum.
- Sensei Format can be activated/deactivated or fully uninstalled at any time returning all of your original settings from before the time you installed Sensei Format. Be aware that Sensei Format will drastically change your Blender UI, including workspaces, hotkeys, and settings. If you don't want that, do NOT unzip it.
- If you will need to reactivate any addons you were using after installing Sensei Format, you can switch between your old settings and Sensei Format any time by going to File > Sensei Format > Activate / Deactivate Sensei.
Stay updated...

Sensei Format will check for new versions of Blender & Sensei Format then aid you in updating them. Each check is run only once a day and only if you open Blender.

If new versions are available, you will be given the option to update. Just follow the instructions and all your settings, add-ons, themes, workspaces, hotkeys, etc... will be transferred and updated for you.

De/activate any time...

Switch back and forth between regular Blender and Sensei Format at any time with all your settings saved.

The only remnant left will be the Sensei Format options menu which allows you to activate or deactivate Sensei Format. To completely remove Sensei Format from Blender press “Full Uninstall”.

To update Sensei Format, first download the latest version from blendersensei.com to your computer, then press “Update Sensei” (found in the above menu) and select the .ZIP file you downloaded to install it. All of your settings, layouts, theme, addon options and so on will be saved, only core Sensei Format code and addons will be updated.

NOTE: If updating to a lettered version of Blender, for instance 2.79a or 2.79b, you can do so without making any adjustments to Sensei format, just download and install the desired version of Blender and the changes will be reflected automatically.

Access the latest Sensei Format user manual or complete PDF hotkey list any time straight from Blender’s file menu.

Activate or deactivate Sensei Format at anytime. All your settings will be restored exactly the way you left them.

Press “Full Uninstall” To completely uninstall Sensei Format.
Sensel Format's asset library intelligently searches blend files for groups and objects so you don't have to go digging through them to link or append them to your scene.

Linked files containing groups are automatically instanced. All imported objects carry all needed materials, images, modifiers and so on with them when they come to play in your scene.

Quickly link, append or import objects to your scene without having to open a file browser or dig through .blend file libraries.

The "append" button doubles as an importer allowing you to import any file Blender can use such as .3ds, .svg, .obj, .bvh and more...

Press this button to toggle a thumbnail view of the library.

Then press "link" or "append" to instantly add the selected item into your scene.

Press this down arrow to save any unsaved file into the open folder below.

This allows for quick testing. You can rename the newly saved file by right clicking it.

Quick thumbnail and file display widget.
ZERO BRUSH LITE (FREE WITH SENSEI FORMAT)

Load an Image as a brush or load a folder of brushes with all the best settings built-in.

Go straight from loading your brush to painting or sculpting without having to set anything up.

Press SPACE to access your brush menu across any paint or sculpt mode.

ZERO BRUSH LITE (free with Sensei Format)

Zero Brush lets you paint instantly on to any object in Blender. No material, uvmap or image required.

Just select the object you want to paint and press the Z8 texture paint button at the top right of your screen. Zero Brush also makes sculpting and painting particle hair super fast and easy in Blender.

Add, delete, hide and position paint layers directly from the 3D view.

Auto convert your painted objects to Cycles and back to Blender Render.

Click the folder icon to expand save, export, import & reload options.
MORE FEATURES

The 3D cursor snaps automatically to the nearest origin point of an object.

Holding Shift right-clicking snaps the cursor to the object's nearest face, vertex, edge or other snapping point if not a mesh.

If in ortho view (1-7) cursor will snap to the grid. If in edit mode, the 3D cursor snaps to the nearest edit point automatically.

Press Shift-double right click to set an object's origin point on the fly while in object mode.

Hold Alt-Right Click to temporarily disable 3D Cursor snapping while dragging mouse, or fully disable the feature in the Sensel Format options menu above.

The timeline indicator snaps to the nearest fraction of a second or keyframe (hold Alt while dragging to temporarily disable snapping or fully disable it in the menu to the right). When you move or duplicate a selection of keyframes, they will also snap to the timeline indicator.

Expand library button allows you to zoom in on an open folder in the assets library.

Change animation style of selected keyframes & turn on auto keyframe.

Restrict animation work area.

Enable/disable timeline snap (enabled by default) and other options.

Set keyframe interpolation.

Reverse & mirror selected keyframes.

Change animation editor type.
Choose from Mirror, Clone or bisect-mirror settings. Then press X, Y, or Z to quickly perform the desired operation as many times as you want on as many selected objects as you want.

Contextual parent, join and separate buttons. Keep an eye on this menu. Based on the type of objects you have selected and mode you're in, different options will manifest for you to take advantage of.

Press this button to display Blender's operator menu. (open by default in regular Blender)
EDIT MODE TOOL SHELF
(basic tools)

Basic edit mode (Tab) tools for beginners.

Turn on helpful tips for a quick reference guide to basic Blender use.
EDIT MODE TOOLSHELF
(extended tools)

Extended tools for everyday edit mode Blender use.

Builder's condensed mesh tools layout allows you to quickly access the tools you need without having to constantly navigate through popup menus.
Builder Breakdown...

A. Builder options menu
B. Turn on/off HD Shading
C. Pocket
Press this button to open and close your pocket so you can put things in and take things out of your pocket.
D. Snap and Set Origin menu
E. Align To Grid Buttons
These four buttons will allow any selected objects precisely with the grid of the chosen corner button in context with the current 3D view.
F. Mirror and dynamic menu
G. Bevel and smooth shading
H. Builder extended menus

Physics Sim:
The physics simulation menu can be used to simulate rigid body physics simulations by giving different objects in your scenes different properties. It works similarly to Blender's default physics tab, only there is much more feedback provided to the user, more options, and Builder does things both an object and a scene to help ensure the buttons you press do the things you want.

Dimensions:
This menu exists to combine common tasks regarding dimensions, transformations, locking axes, applying and resetting transformations, etc...

You can of course use these inputs to manually move, rotate, and scale (dimensions) individual objects. Or lock transform values, for instance say you had modelled a door, and you only ever wanted that door to rotate left-right (you know like a door), you could press X and Y under where it says "Rotation" to lock those values, then every time you pressed it rotate, your door would only ever rotate on its Z axis.

Whenever you transform something while in Object mode (move, rotate, or scale), you are in actually not transforming the object's mesh directly. For this reason, things can sometimes get wonky in Blender if you've transformed an object without applying those transformations to the object's mesh. For this reason there are apply and reset buttons.

You can change the units value from "None" to "Metric" or "Imperial" to work in meters or feet respectively. Grid lines and grid size options will appear once you change this value from "None" to "Metric" or "Imperial".
Pocket allows you to easily store and retrieve files instantly with a fun user interface that auto generates thumbnails. Putting things in your pocket is as easy as selecting everything you want to go into your pocket and pressing “Put In My Pocket”. Objects can be brought into the 3D View by clicking on a thumbnail. That's all there is to it. No special rules about saving, or generating thumbnails.

Everything is taken care of automatically. You can save objects using mat caps or with materials, and they'll automatically show up in your pockets the way you saved them. You can create new pockets by pressing the + sign next to existing pockets. Then you can rename your new pocket by clicking on it. You can make as many pockets as you want. There is also a search button (for when you've created a billion pockets).

Pocket has link and edit buttons. When the link button is pressed, objects pulled out of a pocket will be linked. This means you can put the same object in all sorts of different files, then whenever you edit the original one, the file will update and change in all the other locations it was placed. The edit button transfers you directly into the selected pocket file, then just press the back arrow button, the file will be saved and you'll be instantly transported back to whatever you were working on before editing, no manual saving or renaming required.

Pocket handles auto version naming so you can make a bunch of quick variations of things without having to worry about accidentally overwriting something or manually renaming it before putting it into your pocket. So make 40 different swords, instantly saving and viewing them all at once!
C-ARRAY TOOLS

An amazing new toolset “Curve-Array” has been added making the creation of automatically extendable tracks intuitive and easy. Select one or many objects then shift select a curve or path and two new options will appear, “C-Array” and “No Stretch”. “C-Array” adds modifiers, and adjusts all necessary settings, allowing the instant creation of items like repeating tracks, belts, roads, ladders, animal spinal columns or anything else you need to organically merge and extend with a curve.

Objects automatically merge, extend and snap to the curve length, whenever the path or curve is extruded. A huge advantage with this tool is that it automatically adjusts transform values to ensure everything works together in harmony to produce expected results.

Whereas “C-Array” is great for organically repeating items, “No Stretch” is ideal for setting up long lines of objects which should not merge, or be distorted in any way, like dominoes, bullet belts, or other repeating items like lamps or small plants found along a road.

“C-Array” and “No Stretch” can be used together to setup amazing automatically extendible tracks that use both, organically merged items (such as roller coaster tracks) and No Stretch items (like track supports or lighting fixtures). Once everything is setup, extruding one point can extend the entire setup in any direction.
DIRECTOR’S CHAIR

The Director’s Chair gives you quick access to lights, camera, render settings and more. Control mist, camera tracking, scene lighting, shadow blur and darkness, depth of field, camera lens, ambient effects all at once.

Get the most accurate visual feedback Blender has to offer while simultaneously activating all required settings to see these effects both live in the camera 3D view as well as when rendering whether in Cycles or Blender Render.

- You can press F to insert a keyframe for the camera only (without affecting your current selection) while your mouse is hovered over this area, allowing for quick camera animation adjustments.

- Having a small camera view available helps with quick mesh selection while working in orthographic views (top, bottom, right etc...).

- It’s small size allows for very quick render preview generation as well as doubling as a material preview window.

- Take the director’s chair fullscreen by hovering your mouse over the camera window and pressing “o” or Ctrl-Up.

- Quickly adjust your camera and make test renders without disrupting your primary workflow.
New pose library brings simplicity to animating rigged characters and objects in Blender.

You no longer have to worry about what is or isn't selected, what type of keying set you're using etc... when animating keyframes while in pose mode or creating poses.

Using the Builder menu Mirror/Clone and parenting buttons (while editing armature bones) automatically takes care of bone naming (distributing proper front/back/left/right name associations), recalculating bone roll and more to ensure that pressing the "Flip Pose" and other buttons just work.

The new pose library makes creating, renaming and deleting multiple libraries a much more intuitive process.
GENERAL INFORMATION

- Sensel Format uses a combination of default Blender hotkeys as well as some special keys which use tools found only in Sensel Format. Several default Blender hotkeys have also been changed to maximize workflow and increase efficiency. A complete list of these keys can be found under File/ Sensel Format/ Hotkeys (after you've installed Sensel Format).

- After your initial install of Sensel Format, you're free to setup shop however you wish. Thereafter, updating Blender and Sensel Format should reflect most of the changes you make such as hotkeys, theming, additional workspaces and so on.

- Some Sensel Format features and addons are required to use Sensel Format as a whole (all of these are included for FREE of course). Some features are dependant upon the workspace in which they reside so if you plan on adjusting workspaces, you should create new ones rather than editing pre-existing ones to drastically.

The operator menu is kept closed by default in Sensel Format. You can click the plus tab to activate it again.
TROUBLE SHOOTING (INSTALLING)

THE ADDON DOESN'T DO ANYTHING WHEN I CHECK THE BOX OR IT DOESN'T SHOW UP AT ALL IN MY BLENDER ADDONS:

When installing the Sensei Format addon (via the “Install Add-on From File” button in the addons menu of Blender’s user preferences) **the addon must still be zipped!!!**, that is the file itself should look like this “Sensei_Format.zip”.

If your computer or internet browser (such as Safari) automatically unzips downloaded files for you, you must disable this feature before downloading the Sensei Format addon or simply re-zip the folder after your computer or internet browser auto-unzips it. You can use free software such as 7zip or Jzip to zip it back up.

It is not necessary to put the downloaded addon into a special location. Just install the downloaded file from your desktop, downloads folder, or anywhere on your computer and Blender will import all the files for you (so long as you left it zipped dawg).

AFTER INSTALLING, SOME FEATURES DON'T SEEM TO BE WORKING:

If Sensei Format appeared to install properly but some things seem not to be working click “File” in the top left corner of the screen. Select the option “User Preferences” and then select the “Add-Ons” tab at the top of this screen.

To the left of this screen is a list titled “Categories”. Find “Sensei Format” in this list and press it. If any addons that appear are unchecked, try checking them then press “Save User Settings” near the bottom left of the screen and restart Blender.

**NOTE:** If you need to update to a lettered version of Blender, for instance 2.79a or 2.79b, you can do so without making adjustments to Sensei format, just download and install the desired version of Blender and the changes will be reflected automatically.

For more help visit the forums at Blendersensei.com
MAC INSTALL ISSUES

IF GETTING “scripts are missing” MESSAGE:

Sensei Format is designed to easily install for Windows, Mac and Linux. The installation process is the same as any regular Blender addon with the exception that the Sensei Format file you downloaded does not have to (and should not be placed) in a special location and should remain zipped (Sensei_Format.zip).

The Safari internet browser tends to automatically unzip things when you download them, if that is the case with the Sensei_Format.zip file, be sure to zip it back up again before attempting to install (or use Chrome or something to download it instead). You can use free software like 7zip or Jzip to zip it back up or you can disable auto zipping under the Safari options.

If you’ve followed the instructions in the "Installing Sensei Format" video in the Blender Crash Course video playlist at youtube.com/blendersensei but are getting error messages like "scripts are missing"; this may be due to the version of Mac you’re using. Some Mac systems will prohibit programs from opening or transferring zip files. If you’re experiencing issues like these try the following:

Open Blender and go to File/ User Preferences/ Select the Add-Ons tab at the top and look for the category "Sensei Format" on the left side of this screen. If you do not see this category then you can move on to the next step; if you do see the category, click it and then click the arrows next to the addon names that appear to the right (if any) of the categories menu to expand their options and click the "Remove" button for each one.

If you check out the Mac section of this page: https://blender.org/manual/getting_started/installing_blender/directorylayout.html

You’ll find the below location:
/((Users)/(your computers name here))/Library/Application Support/Blender/(2.76 or whatever version of Blender is installed)/scripts/addons

Manually paste the Sensei_Format folder (after unzipping it) into the addons folder. This time you will want to place the Sensei_Format folder UNZIPPED inside of the addons folder... there should be no zip files within this addons folder just to be clear. If having trouble finding this location, scan Google or better yet Youtube for more info on that.

If you make it into the right folder and paste the Sensei_Format folder (unzipped) then after you restart Blender and go to Blender’s file menu, File/ User Preferences/ Addons/ you should see the category “Sensei Format” to the left in the list of categories. After clicking the “Sensei Format” category, checkmark the addon that shows up to the right and follow the instructions that pop up on the screen. You should be good to go from here.
TROUBLE SHOOTING UPDATE ISSUES

NOTE: If you need to update to a lettered version of Blender, for instance 2.78a or 2.78b, you can do so without making adjustments to Sensei format, just download and install the desired version of Blender and the changes will be reflected automatically.

IF YOU'RE HAVING TROUBLE UPDATING SENSEI FORMAT OR NEED TO PERFORM A FULL UNINSTALL:
Sensei Format assists you in updating. Updating Blender is done semi-automatically (you'll be alerted when a new version is available) and promoted to update, but you'll still have to download and install Blender manually then Sensei Format will handle all the necessary updates and configurations when you open Blender back up to keep your previous settings intact.

Sensei Format checks for updates to itself and Blender once a day (only when you open Blender). If you happen to be at blendersensei.com or blender.org and notice a new version has been released that day but you're not being prompted to update while in Blender, go to File / Sensei Format/ and uncheck “Check For Updates”, recheck it then restart Blender. If there is a newer version of Sensei Format or Blender then the update should begin.

Updating Sensei Format is fully automated (you're given the choice when and if you want to update when an update is made available). If you experience trouble when trying to update either Blender or Sensei Format, the following instructions should be followed to get you back on track.

**STEP 1.** If you experience trouble with updating Sensei Format you may need to do a full uninstall. To completely uninstall Sensei Format go to "File" in the top left of your Blender screen and select "Sensei Format". In the drop down menu that appears, select "Full Uninstall". You'll be asked if you want to continue, say "Ok".

**STEP 2.** Now go to "File" and select "User Preferences" and click on the "Add-ons" tab at the top of the User Preferences screen. In the search bar type "Sensei Format" to find the Sensei Format add-on. Click the arrow next to the add-on which will expand more options for the add-on. Now click "Remove" to remove the add-on completely.

**STEP 3.** Go to blendersensei.com/store#senseiformat and download the latest version of Sensei Format. Follow the install instructions on the Blender Crash Course playlist located at youtube.com/blendersensei to reinstall Sensei Format.

FOR MORE QUESTIONS VISIT THE FORUMS AT BLENDERSENSEI.COM