

GIMP 101

Lesson Plan

The GNU Image Manipulation Program (GIMP) is a free alternative to Photoshop. A student will learn the basics of GIMP – color correction, selecting, cutting, cropping, and removing blemishes and objects from photos.

Lesson Objectives

At the end of the class, the student will:

* Be able to open GIMP from the lab drive.
* Understand basic color and exposure correction, including using the levels, hue-saturation, and color-balance tool.
* Understand how to select parts of the photo.
* Understand how to resize and crop an image.
* Understand how to remove blemishes and objects from images.

Lesson Prep Work

(30 min, at a minimum, prior to student arrival)

* Get in early to test for technology failure, because it will happen :-)
* Copy GIMP to desktop if it isn’t already installed.
* Move “sample photos” from J:\Classes\GIMP\Sample photos to “My pictures” folder on desktop.
* Pre-save example documents in J: drive, etc.
* Print handouts.

Lesson Prerequisites

● Mouse control, ability to navigate Windows file system.

Lesson Outline

The lesson is completed in one (120) minute class session.

*(10) minute Introduction*

* Introduce instructor, students.
  + Ask students at introduction: What is your interest in GIMP?
* Let students know that it’s okay to take phone calls, but ask them to put their phone on vibrate and answer calls outside the classroom.
* Inform students that they can sit back and watch if the class is too advanced.
* Inform students they can go to the bathroom, they don’t need permission.
* Show order in which class will happen. Explain scope of class.

*(105) Activities*

* (5) Into the GIMP workspace
  + *Explanation*
    - GIMP works through a series of floating windows, instead of one big window. There are dozens of windows you could open, but only a couple open up at the beginning. There are two main windows we need to have open:
      * Toolbox: Where all the GIMP’s tools are kept.
      * Image Windows: Where the images we are editing will be.
        + *Metaphor: Like an artist’s desk!*
  + *Activity:*
    - Drag windows around to adjust them to your liking.
  + *Activity: To view available windows or to open a window you’ve accidentally closed.*
    - Click on Windows.
    - Click on dockable dialogs.
    - Click on (layers, toolbox, etc.) to open up a window.
* (5) Opening Images
  + *Activity: Open an image*
    - Click on fil*e.*
    - Navigate to the “blue\_sky.jpg” image.
    - Open file.
      * *Teachers Tip: the GIMP explorer window is slightly different than a traditional one (like those seen in Word or Excel).*
    - All of our file actions – opening, closing, saving, printing, etc. – are done with the menus at the top of the Image Window.
* (15) Exposure Correction
  + The blue sky picture we just opened is “over exposed”, meaning there’s too much light. “Exposure” refers to how much light is in a picture.
  + *Activity: Correcting the exposure.*
    - Click on color tab at top of window.
    - Click on brightness-contrast level tool.
      * Brightness – is how much light is in the picture – full brightness is all white, no brightness all black.
      * Contrast – is how stark the difference between white and black – full contrast gets you weird fever dream Technicolor, and no contrast is all grey.
    - Adjust sliders for brightness and contrast.
      * *Teachers tip: Point out that “reset” puts things back at their starting values, cancel will remove changes, and OK will finalize changes.*
  + *Activity: Adjusting both contrast and brightness simultaneously with levels.*
    - Click on colors.
    - Click on levels.
    - Adjusting sliders will adjust both contrast and brightness at the same time.
      * *Teachers Tip: This tool gives you a map of all the black, white, and grey in the picture, letting you adjust their intensity and proportion.*
* (15) Color Correction
  + *Explanation*
    - Once we’ve corrected our exposure we can look at colors. There are two main vocabulary terms we need to know for this:
      * Hue: A fancy word for color – where in the visible spectrum a color is located.
      * Saturation: intensity of a color, how vibrant it is. Low saturation is grey, high saturation becomes fluorescent.
  + *Activity: Adjust the hue-saturation of the photo.*
    - Click on colors.
    - Click on Hue-Saturation.
  + *Teachers Tip: You can also colorize or tint a picture by clicking on colors and then using the colorize tool.*
* (20) Correcting part of a photo – intro to selections
  + *Explanation*
    - What if we want to change just one part of a picture?
      * The first six icons in our toolbar are our selections tools. You have:
        + Rectangle select
        + Ellipse select
        + Free select (free hand drawing of a selection)
        + Fuzzy select (selects a contiguous area by color)
        + Select by color (selects all the areas of a specific color)
        + Scissors select (tries to detect edges in image)
  + *Activity: Selecting an area with the rectangular tool.*
    - Click on the rectangle select tool in the tool box.
    - Draw a selection rectangle around a portion of the sky.
    - When you select something in GIMP, the area will be surrounded by “crawling ants” – a moving border.
    - Add to the selection by using Ctrl and drawing another rectangle.
    - Take away from the selection by using Shift and drawing another rectangle.
    - This works with every selection tool.
  + *Activity: Selecting only the sky in the “blue\_sky.jpg”.*
    - Select fuzzy select tool in toolbox.
    - When things are mostly the same color we use the fuzzy select tool.
    - Select the sky. Hold shift to add sections until the sky is covered in crawling ants.
    - With the sky selected use the hue-saturation menu and level menu to deepen the blue in the sky.
  + *Practice: Open up the “yellow teeth” file. We can use the same technique here- selecting an area and adjusting color – to do things like whiten teeth and remove red eye in photos. Use the fuzzy select tool and hue-saturation menu to whiten the woman’s teeth.*
* (30) Fixing blemishes, resizing photos
  + *Explanation*
    - Occasionally you’ll have photos you want just a part of.
    - Have class open “cropping.jpg”
    - For instance, you don’t want to get too close to a moose while taking a photo, but you’d like to be able to show the photo to people and have them see just the moose – not all this greenery.
  + *Activity: Cropping out just the moose.*
    - Select the crop tool from the tool box.
    - Draw a box over just the moose.
    - Click in the center of the section you wish to crop.
  + *Explanation*
    - If you want to be able to print this image correctly, we need to keep the aspect ratio (the relationship between the height and width of the picture) the same as photo paper.
  + *Activity: Undo cropping and re-crop with consideration for aspect ratio.*
    - Undo initial crop (either under the edit menu, or by pressing Ctrl + Z).
    - Select crop.
    - Select “fixed” aspect ratio in the tool options (NOTE: if this menu isn’t open, it can be found in windows->dockable dialogues->tool options).
    - Draw a rectangle around moose – selection will maintain aspect ratio no matter what size you make it.
  + *Explanation*
    - If you ever need to resize a photo, it’s easily enough done – you just need to know a few basic things.
    - First, if you’re printing (and it is staying the same aspect ratio), you don’t need to resize a photo – the printer can scale an image for you. Resizing is usually only necessary if you’re combining images or putting images on a website.
    - Secondly, you can only get pictures so large before they start to look bad.
      * Pictures are made of pixels – tiny squares of color. Have class zoom into the current picture until they can see individual pixels. Compare to pointillist painting.
      * How many pixels you have per inch is called the resolution. The more pixels, the bigger you can blow up a picture without losing quality.
    - So you have to think about three things when resizing: the height, width, and resolution.
  + *Practice: Open any photo. Go to image->Scale image. Show how to change units on size and resolution, use chain icon to lock and unlock aspect ratio.*
  + *Explanation*
    - Some corrections aren’t just for color or size – sometimes you have a pimple you’d really like to get rid of, or something similar.
  + *Activity: Remove blemishes from “blemish\_example.jpg”.*
    - Click on healing tool in tool box.
    - Ctrl + click on clear skin.
    - Click on blemished skin to “erase” it.
      * *Teachers Tip: Clicking and dragging will pull the sample point you set with Ctrl + click along with it, so be careful. Sometimes it’s best to just click (rather than clicking and dragging).*
    - Have class fix rest of blemishes.
  + *Explanation*
    - You can also use a similar technique to remove unwanted people or things from pictures.
  + *Activity: Open up “remove person” and erase human in background.*
    - Open up photo “remove person”.
    - Select clone stamp tool in tool box.
    - We’re going to erase the woman in the background.
    - Ctrl + click on an area next to the woman to sample it.
      * *Metaphor: imagine we’re painting over the woman – the ctrl + click is like we’re taking paint from a palette, and we then normal click to apply that paint where we want. To really hide the woman, we want the colors to match the beach around her – which means we have to keep taking our “paint” from different parts of the photo.*
    - Click over the woman to paste the area you’ve sampled onto her.
      * *Teachers Tip: The class should be aware that they should sample liberally from the area around the woman to make it look more realistic (especially at the water line).*
    - Erase the woman.
* (5) How to download GIMP and find tutorials
  + *Demo: Downloading GIMP*
    - Open up internet browser.
    - Navigate to Gimp.org.
    - Point out “Download” icon.
  + *Demo: Finding tutorials online*
    - From gimp.org navigate to the tutorial section.
    - Highlight that the tutorials are based on skill level.
    - Navigate to youtube.com.
    - Type in “Gimp tutorial”.
    - Point out the vast array of GIMP tutorials (both for beginning and advanced users).
    - Navigate to “google.com”.
    - Type in “Gimp tutorial”.

**(5)** *Conclusion*

* Go over handout, review material, and emphasize contact info & further resources on handout.
* Any questions? Final comments?
* Remind patrons to practice; assign take-home-practice - remind them they can ask for help
* Remind to take survey.