Introduction to Photoshop

Cropping & Resizing Images

Conventions

Keyboard command sequences will be within <[and]>.
Keyboard command sequences will mix both Mac and PC,
for example <[Command/Control+j]> means:
On a Mac do <[Command+j]>
On a PC do <[Control+j]>

***** SLIDE 3 References

Scott Kelby, How Do I Do That In Photoshop, Chapter 5

***** SLIDE 4 Cropping

The Crop tool has several hidden tools:
- Perspective Crop Tool: used for correcting skewed images
- Slice / Slice Select Tools: used for creating web graphics

The Crop tool is simple to use: select the tool, drag the
cropping boundary across the image, then press <[ENTER]> to
execute the crop.

An alternate way to crop is to use the Rectangular Marquee
Tool to create a rectangular selection on the image that you
want to crop out. Once the selection is in place, from the
Image menu item select Crop.

WARNING! Cropping can be destructive and it will affect ALL
LAYERS in the layer stack.

***** SLIDE 5 Cropping

The Crop option bar has several options from left to right:

- Ratio drop down menu: selections for fixed ratios, set
height & width, and fixed image resolutions
- Height / Width boxes: enter fixed height & width
dimensions here, clicking on the arrows between the boxes
will flip the data in the boxes; example, a 4 x 6 crop would
flip to a 6 x 4 crop.
- Clear button: clears the data in the height / width boxes
- Level: straighten the image within the crop boundary
- Grid: options for adjusting crop by using overlays

- Options (gear): additional crop options
- Delete Cropped Pixels: destructive edit, removes all
pixels across all layers in the stack that are outside of
the crop boundary
- Content-Aware Crop: will attempt to fill in information if
you extend crop beyond image border
- Reset Crop: reset crop boundary to edge of image
- Cancel Crop: cancels the crop
- Execute Crop: does the crop

***** SLIDE 6 Cropping

You have the ability to rotate the image within the crop
boundary. Once you have the boundary set and before you
execute the crop, move the cursor outside the crop boundary
to a corner. The cursor will turn into a double-headed
curved arrow that will allow you to rotate the image.

If you select the Content-aware crop checkbox, if you extend
the crop boundary beyond the image border and into the
canvas, the content-aware algorithm will attempt to fill
this void with content selected from the image. On the class
website there is a link to the Photoshop Cafe website that
has a video that will show this content-aware crop in action.

***** SLIDE 7 Cropping

There are grid overlays that you can use to help you crop
the image for an effect of positioning elements of the image
into a more pleasing arrangement. One of the commonly used
grid overlay is the Rule of Thirds, a photographic
compositional technique. The image is split into thirds both
vertically and horizontally, you want to put your subject
near or on the intersection point where horizontal and
vertical lines meet. Elements with strong horizontal or
vertical components are placed near or along one of the
corresponding lines.

***** SLIDE 8 Cropping

There are a variety of different overlays that you can use
to help you decide where to crop the image. Diagonals imply
motion, triangles stability. The Golden Ration and Golden
Spiral are both based upon Phi, which, like Pi, is an
irrational number which value can be approximated to 1.618.

We find the ratio of Phi all around in nature: the spiral

sequence in a sunflower head, the scales on a pineapple are a double Phi helix. This ratio is also used in other elements, such as business cards (2" x 3.5"), most picture sizes are based loosely on this ratio (4" x 6", 5" x 7", etc.). The Parthenon in Greece is supposedly built according to the ratio of Phi.

***** SLIDE 9 Cropping

If you extend the crop beyond the image border you can expand the area of the image. If you do not have content-aware crop on, the extended area will be filled with transparent pixels. If content-aware fill is selected, then the extended area will be filled with pixels that the algorithm will attempt to extrapolate from the image. Please note that content-aware fill is tricky; sometimes it'll work great, sometimes it won't.

***** SLIDE 10 Cropping

There are several options available to exit the cropping tool before you execute the crop. You can click on the slashed circle in the Option bar to exit the crop, or press the <[ESC]> key on the keyboard to escape the crop.

If you accidentally executed the crop *and* selected the "Delete cropped pixels" option, you can undo the crop several ways:
- Immediately do a <[Command/Control+z]> to undo the previous action in Photoshop
- From the Edit menu item select Undo
- From the History panel select the state just before you executed the crop

(If you did not select the "Delete Cropped Pixels" they are still there, just hidden from view.)

If you have performed several actions after the crop and want to go back to undo the crop:
- <[Option/Alt + Command/Control + z]> - do this key sequence for as many steps as you need to undo (up to 50 steps)
- From the History panel select the state just before you executed the crop

The History panel saves the last 50 things that you did in Photoshop as a default. You can adjust this number in the Performance section of the Preferences panel.

***** SLIDE 11 Resizing Images

One task that is routinely performed in Photoshop, and
something that you will have to do for your composite image,
is resizing and image either in dimension (making larger or
smaller), resolution (pixel density), or both. Photoshop
does a fairly good job at resizing images up to 300% of
original size; anything larger and you need to use an
alternative method, such as a third party plug-in.

For image resolution, or the number of pixel elements per
inch, there are some defaults that you should use. For an
image that is being sent by email or to the web, you want an
image resolution of between 72 - 96 pixels per inch (ppi).
Most screens, except for Retina displays and the equivalent,
have fairly low resolution.

If you are going to print your images, you need a greater
resolution. You will need at a minimum a resolution of 180
ppi, and 240 ppi is a good value. Most camera RAW files
deliver 240 ppi as a default, and most camera large JPG file
format also have a fairly high resolution for printing.
While you may see printers that can deliver 600 ppi or
greater, you don't really see much difference beyond 240
ppi. If you want to go higher, limit the top resolution at
300 ppi. Anything beyond this you really don't gain much in
the way of resolution; while it is there, most people will
not see it. For pictures, the viewing distance is twice the
diagonal value. For large screen TVs, for example, you might
have seen a minimum viewing distance - anything closer and
you will begin to see the pixels that make up the image. The
same with pictures and photographs, there is a minimum
viewing distance that is twice the diagonal. If the diagonal
is 7", then the minimum viewing distance is at least 14"
away; a resolution of over 300 ppi will be wasted.

***** SLIDE 12 Resizing Images

Resizing images is performed through the Image size dialog
panel. This panel is brought up either through the Image
menu item selection of Image Size, or via the keyboard
sequence <[Command/Control+Option/Alt+i]>

The panel shows the current image size in Mb and dimensions
(height x width), you can change the dimension display from
pixels to inches (or millimeters, centimeters) by the down

arrow next to the dimension size.

The image on the left is a preview that is set by the editable fields to the right of width, height, and resolution. You can link the width and height together (the chain symbol) or you can unlink them. You keep them linked when you want to keep the same aspect ratio between height and width, for example you want to fit the image into a 5" x 7" size for a photographic print and you want to keep the proportions the same. The drop down menus to the right of the editable fields have different values such as percent, inches, metric values, pixels, points, and picas - these last two are only relevant in typography. The resolution can be altered which will have an effect on the image size. Generally speaking, the higher the resolution the larger (in Mb) the image; a small image with a high resolution might be larger, file size wise, than a large image with a low resolution.

The resample checkbox is used when you want Photoshop to resample the pixels of the image when you are changing either the resolution or physical size of the image larger or smaller. There may be times where you do not want to resample the image, and there will be times that you will want Photoshop to resample.

***** SLIDE 13 Image Resizing

For resampling images, Photoshop has several default options for enlargement and reduction; depending upon the image, one of the options will work better than the other and it is worth the time to try the options.

For enlargement there are Preserve Details and Bicubic Smoother. When enlarging there is a possibility of pixelation, thus the image will need to be smoothed. If the image is already relatively smooth, you will want to keep any detail information there.

For reduction there is Bicubic Sharper. When reducing images they tend to smooth out and edge detail can be lost, you want to preserve this information as much as possible.

If there are gradients, such as the subtle variation in a blue sky, you want Bicubic to keep the transition smooth. For preserving hard edges, Nearest Neighbor.

***** SLIDE 14 Resizing Images

Photoshop has multiple image dimension measurement options from the drop down menu. You will typically (90% of the time) be using either percent, pixels, or inches. There are also centimeters and millimeters if you prefer to work in with these units. Points and picas are for typography and will not need to be used in this class.

The units you are currently using will have a check beside it.

***** SLIDE 15 Resizing Images

Enlarging a high resolution (180 ppi+) image.

To enlarge a high resolution image perform the following steps:

- Bring up the Image Size panel
- Change the width / height dimension to percent, click on the link to lock the ratio aspect at 100% for both width and height
- Make sure that Resample is checked and that you are using either Preserve Details or Bicubic Smoother
- Enlarge in increments of up to 100% (i.e., 110%, 150%, 210%, etc.)
- DO NOT exceed an enlargement of 300% - Photoshop's enlarging algorithm breaks down beyond this
- If you need enlargement beyond 300% consider using a third party plug-in

***** SLIDE 16 Resizing Images

Enlarging a low resolution (< 180 ppi, usually 72 - 96 ppi) image.

To enlarge a low resolution image perform the following steps:

- Bring up the Image Size panel
- Change the width / height dimension to percent, click on the link to lock the ratio aspect at 100% for both width and height
- Make sure that Resample NOT checked
- Enter the resolution (180 - 240 ppi)
- Photoshop will maintain the aspect ratio of the image

***** SLIDE 17 Resizing Images

Downsizing a high resolution image

To reduce a high resolution image perform the following
steps:

- Bring up the Image Size panel
- Enter the width and height (in pixels, inches, or
percentage) in the document size fields (height & width). If
you use percentage, you will probably want to have the link
to lock aspect ratio selected.
- Make sure that Resample is checked and Bicubic Sharper is
used

***** SLIDE 18 Resizing Images

Photoshop has some default presets for image sizes already
set for your use. They are divided into three groups:

- Web: some standard web sizes; those selections with 144
ppi are for Retina level displays
- Paper: some standard paper sizes; A4 and A6 are paper
sizes used predominantly in Europe and Asia
- Photographs: some standard photograph sizes; note that dpi
(dots per inch) and ppi (pixels per inch) are not exactly
the same, but for the purposes of this class they can be
considered to be identical.

At the bottom you see two options, Load Preset... and Save
Preset... Photoshop allows you to set your own values and
save this as a preset. This is very handy, for example, you
are working with photographs that are 13 x 17 in at 300 dpi.
You can set up the values and then save them as a preset.
When you want to use it again, click on the Load Preset...
and Photoshop will find it, and any other presets you have
made. This will not be the first time that you will see the
Save Preset... / Load Preset... options.