Prior Weeks
DCIM = digital camera image

Directions of shooting for class, use P mode (program mode) , no flash. Stick with highest resolution.
Camera raw is straight sensor data (unprocessed) the cleanest data. JPG is processed in the camera. For now shoot in JPG even though best quality is camera raw. Don't use art effects and don't shoot in black and white.

To log on go to Go>Connect to Server>MCLserver>art8 and Art8x for name and password. Go to file (Sappington 8>Spring 2011>4205).

For low light shooting, point is no flash, how dark can you go, throw nothing away. Try different light sources.

2/8/11
Bracketing assignment due
Zone system

Bridge
Another good program to use is Lightroom

Bracketing

First an example:
Half step lock is built into the shutter button. Make sure to work with it without taking a photo. Helps set the focal value. Goal is to unlock the settings and change those settings – separate focus lock from auto exposure lock. This will be in the manual.

At half step it assesses how much light is here. But camera is dumb, it looks for half gray. He did an example of taking a pic into the light and not letting up on the half step then taking a pic of people, point is that it has led to over or underexposure of the pic. To do this between an over and underexposure and what's in between is actually bracketing, using a range of exposures to get all details.

This can also be done with P mode. Need to unlock auto to the half step. When he did his example, it changed the shutter speed to change value, not aperture.
To work with bracketing:
1. AE-L AF-L for locks: read how to separate these two or reassign them.
2. Exposure value compensation: Part of the menu, telling it that you want a measure of over or underexposure. E.g. set to +1 up to -2 for bracketing. Takes more time and focus this way.
3. Some cameras have an auto exposure bracket. Does it on the meter, and then it depends on how auto bracketing set up. Will take it one on, one over and

one under. AEB auto exposure bracketing. Shooting regularly with auto bracketing is not a bad idea.

If working with camera raw, bracketing becomes less important however.

White balance bracketing – AWB is auto white balance bracketing, some cameras have this. White balance is more critical for Photoshop to jpg, but not important for camera raw since will be able to control white balance in camera raw.

Auto focus has multiple modes. Want it constantly monitoring the distance to see if anything shifting, refocus each time for each pic.

Tonalities for bracketing: point at super bright and half lock before taking pic first time. Then do same and half lock before taking second pic.

Street and sidewalk is middle gray, zone 5. Palm of hand is usually zone 6 (one stop lighter than middle gray) = 1/3 of a stop underexposed. For auto bracketing can do 1/3, 1/7 or full stop, depends on preference. Goal: make it grossly over and under exposed for first exercise.

2/15/11
Camera obscura

Talking RE Lens the info that's included on that– aperture values, expressed in f stops (fraction of total diameter of the lens)
Depth of field – distance
Digital has fine fractions of the lens aperture. Can be whole or half steps.
1/60, 1/30, 1/8 shutter speed

Move from P mode (half step to bracket) move to Manual Mode.
Focus on EV – exposure compensation value
Take one shot on the meter, check EV, choose over or under exposed. Starting probably with 3(=1/3), 7(=2/3), 1(=1)

On the meter is 0, average. Camera only knows middle gray so it goes to middle gray. Camera gives suggested combos of speed and aperture on the meter. Watching the scale (-2 to +2), watch the needle move. In manual mode, working on either aperture or shutter speed. Make small increments in a full or half stop. Point is to watch for placement on the value and then adjust. 3-5 shots positive and negative.

Decisions: ID light source, then determine ISO. Have to consider to make sure I can get the shutter speed and aperture range I want. John usually leaves his on 100 and only changes it when he runs into problems.

2 pcs to the camera: exposure and effect. 50% based on exposure, the tonality achieved. Effect: depth of field, motion blur, etc.

HDR and bracketing

2/22
Discuss Bracketing
Keep in mind that anything longer than 1/60 typically too long to hold

Manual:
Initial Value: TV and Aperture
Need to think about it.
Suggests to do it between 2 and 5 so no struggle to work with it for the first time.
Average range of settings normally. Might be:
B/w 1/125 to 250 @ 5.6 to 8 F-stop a good place to start
ISO at 100.
If the meter is pointing to over or under exposed, move. First shot should be at 0 on the meter. Then start changing shutter speed and aperture. Trying to come up with a combo of aperture and shutter speed that equals zero.

Auto bracketing on with AV or TV mode can be done, so just doing shutter speed or aperture.

Discussion of a spot meter. Can take multiple light readings from various sources in the landscape. E.g. set iso

f/	22	16	11	8	5.6	4.5
ss	1/60	1/125	1/250	1/500	1/1080	

Exposure modes (meter modes):
- Multi-zone – breaks the frame up into points.
- Center weighted – if primarily made up of the center
- Spot – spot can move around the same. Focus lock.

Move toward center weighted and spot. Spot is same as using the spot meter. It focuses on a given spot. When you configure your camera to spot mode and uses the half step it's the same thing. Evaluating with spot meter mode allows you to see the combinations, like above. Don't have to take all the pics, just watch what's happening with the combos. As the tone gets darker or lighter, what happens to the combo of f stop and ss.

If I'm bracketing off of specific tones then I'm more likely to get what I want. Point is to focus on the most important thing in the screen – which value in the shot you're making.
Can use aperture priority mode for experimenting with these. As I change aperture, I should start to see the depth of field change (note: directly want to shoot at time of the day with adequate light because want to open the lens all the way up and close it

all the way down.) Work with pics with something close up and something far away (e.g. a person in a landscape shot where landscape is desirable to have visible as well). Point is a near-to-far range. There's a shift that occurs after a certain range beyond the lens. Don't zoom. Effect that we're looking for is for things to come in and out of focus that we can control.

The further out I focus, the broader my range of focus.

Aperture/range of focus pics. Try smallest aperture to the widest aperture, playing around with the range, focused on foreground object then the background object. Example of line of apples used in class. Can shoot in manual mode but he suggests in AV mode. E.g fences, you can change range of motion to photo things thru a fence and the fence almost disappears.

Note: Setting on canon that you can be in P mode and still adjust the aperture setting. (program manual mode?)

HOMEWORK
1. Aperture Bracketing – see example of fruit
2. Motion blurring
3. Depth of field – expanding and contracting by using higher lower settings

CREATING CONTACT SHEETS
Choose group of photos in Bridge
Click on Output
Choose size to fit on page. The 2 named contact sheet would be more typical, then hit Refresh Preview. Adjust document settings, always keep quality the highest (note: resist compression on a standard basis). You can reduce the quality ppi (to 72 or 150, whatever) but not the compression (keep at 100). In layout is where I can choose # of columns and rows, keeping large enough thumbnails to make a decision. Playback is a helpful area. Can lock full screen mode to keep it coming.

From bridge can access photoshop via tools>photoshop
Batch: Process a whole directory of images in photoshop. E.g. use the wrong white balance for images taken. Can import them as a batch operation, such as shifting the white balance for the entire batch.
Image processor – for creating multiple copies of a directory of images. E.g. a secondary set of jpgs that has been shrunk. Set of photoshop docs. Can also save as TIFF for printing cos that don't accept PSDs. John typically gives them a smaller form of jpeg for online and then a TIFF that they can take to a printer. TIFFs are uncompressed, so computer doesn't have to interpret it, supported by every graphics app, especially older and commercial based printers. Can also add batch preferences, such as adding a copyright, etc.

Lens Correction
Merge to HDR
Photomerge –stitches pics to make a panoramic. Take the pics and follow this feature.
Load files into Photoshop Layers: Select images to include. Then tools<File

Options for focusing:
1. Multi zone
2. Center weighted
3. Spot

Have to be careful with multi-zone. Center weighted or spot best for primary focus subject.

Discussion about animated gifs.

Motion Discussion:
Motion coming toward or away from you doesn't capture sense of motion well.

Want a shutter speed slower than flash speed. About 200th of a second. Can't be too slow, such as 60th of a section – thus combo of light hitting the source and a streaking, thus getting something like a double exposure. Lays all the shadows flat behind the subject. Use Tv or shutter speed priority when working with this.

Photoshop
Levels for graycolor shift
Curves option is better for color. To the right are the highlights, to the left are the dark values.

3/28 Layers Discussion
- Modes – he only uses multiply, screen and luminosity
  - Multiply – e.g. flash too hot in some areas.
- Mask to selectively apply adjustments

4/5
Printing: first print is 8-1/2 x 11
- Get pack from Jeremiah's
- Plan to print 5 images of favorite shots to print:
- Create Print folder in my folder
- Must print out from handout in basearts.com – provides guidelines
- See Week 11 for Details

Discussion about beauty in photography, such as his week 10 link to Robert Adams – Colleagues.

- Showing the reality, whether it is beautiful or not.
- Idea of simplicity.
- Idea of banality
    - Photography of what is universally human that is significant

Programs:
- Camera Raw – sits between bridge and photoshop
- Lightroom – Another Adobe product, the camera raw plugin, some features similar to Bridge (a mini-Bridge but with some Camera Raw functions)
- Aperture – Apple's product for photographers, a camera raw workflow
- Some programs have their own products, Camera Raw apps

CAMERA RAW
- Direction to be heading in
- Goal to use Photoshop less as photograph more
- Every camera has a different Camera Raw file type
    - In terms of file type, each camera maker has their own
    - DNG is an Adobe product – archival file type. Can convert RAW files into DNG without any compression, loss of data.
    - PSD is uncompressed and full resolution but not an archival file type. TIF files similar – uncompressed but not a good archival file type.
- Good to exposure bracket with Camera Raw, same as jpg.
- Check out videos in John's Camera Raw directions in week 11 (Richard Harrington and Russell Brown).
- Scripts are something to look at
- Camera Raw does some things better than Photoshop can

Working in Camera Raw
Top Section:
- Exposure is best way to set light range
- Recovery: Close in high ends of histogram to avoid loss of info. Not losing highlight detail
- Fill Light: Close in bottom of histogram so that shadow detail that isn't lost
- Blacks: Ensures proper contrast. Having a true black brings contrast into it, keeps the pic from flattening out.
Middle:
- He says that Brightness and Contrast are virtually worthless since they are sloppy. For specific adjustment, they aren't helpful. They are legacy options.
Bottom:
- Clarity: Bumps up intensity of midtones. Helps create a pop in the midtone range.
- Vibrance: Akin to saturation but not completely. Doesn't shift levels as much.
- Saturation: Will shift colors.

- Use the above three with some restraint. John usually avoids vibrance and saturation, but many people like to work with these.

Note that I can save these settings (preferences: save setting)

XMP – sidecar file, stored in same directory as the Camera Raw file. This should accompany the file, as it captures the edits.

Workflow Options (Access by hitting bottom middle file name on Camera Raw screen in Photoshop):
- Standard is 8 bit
- Resolution Choices: by default it's 1:1, but can also downsample or upsample.
- Almost every file needs a little sharpening. Camera Raw needs less than a lossy format. If for the internet, especially helpful to have them.

For each file:
- Original Camera Raw file
- JPG file
- File in DMG or other archival form to preserve

Sharpening:
- Save sharpening for last
- Just working with luminants not color
- Amount: Intensity
- Radius: finds edge and increases contrast at edge to make it look sharper. How far out from the edge to work, can get halo effect
- Detail: More edge detection
- Masking: PS assesses image, sees solid areas of color (e.g. sky) to help block those out from any sharpening.

Noise Reduction:
- 3 Sliders on top address greyscale. In essence, it monochromizes the image, smooths it out but goal is without losing contrast areas and detail.
- Luminance: overall detail,
- Color Detail: make sure not to lose detail

Split toning – for working on pics with varying highlight/shadow goals, such as snow pics.

Lens corrections: Such as for wide angle cameras and such

In Photoshop (not in Camera Raw):

Unsharp Mask
Threshold below 10
Radius not above 4 usually

Recipes for Unsharp Mask:
John's maximums: 150 on amount 4.0 on Radius, 10 on Threshold
Portrait 75, 2.0, 3
Moderate 120, 1, 3
Maximum: 65, 4, 3

Note: Always do this on a duplicate layer.

Noise Reduction is also a filter:
Reduce color noise is the color mottling (such as from higher ISO)

Should never have to access anything via Mode. Note that this access to grayscale is the worst way of doing B&W – avoid.
Photoshop is actually designed around lab color. EXCEPT:
For big sharpening or noise reduction, better to work in Lab mode. Can easily change from RGB to Lab, do sharpening/noise reduction, and then do sharpening or noise reduction on Lightness channel.
Zoom in to about 400% while working on sharpening/noise.

4/12/11

Set image size – resize before sharpening. It's possible that there is some image softening, which happens any time you resave it as a jpeg. Thus, sharpen it after saving it at the proper size.

Key to resizing an image is that there's no resampling. Use existing resolution.

In Photoshop go to Image Size.
240-360dpi resolution is target range to print. When changing resolution, image width and height will adjust automatically. Anything above 360 is just wasted because the printer can't do any more (e.g. wouldn't see any difference b/w 360 and 600). If hitting height or width (constrain proportions checked), can view the change to resolution.

For borderless trimming, he clicked the height to 11 and then trim the excess width. Suggests using a rotary trimmer to trim – the type of paper cutter in the room is the worst.

Resampling when need to increase size: He uses bicubic, doesn't use bilinear as often. Bicubic smoother and sharper both work really well.

Example of reworking an image.
Changing the image size with just using the height, width, and res is automatic, should be no delay, because it's all the same to photoshop – it's just in the printing it affects. Other work after that: layers, sharpen. Finally, print. Checks: that it fits on the paper without cutting anything off (if something cut off then sizing wasn't

correct), don't use Scale to Fit Media (he suggests using Photoshop to size, not when getting to Printing – make sure the pic is what it should be before printing, so printing involves no further work to the pic itself). Best to center image, no click on bounding box. In second column, normally no need to go into the output (but if desired, lots of options with printing marks), color management. Also options for background, borders. Bleed for color separation for commercial printers. But do have to deal with color management.

Color Management in the Print Box:
Cameras are configured for SRGB, this is its color working space, a gamut that applies to the internet – can't display all the colors. No color system can render the full color spectrum, there is a color working space. Adobe RGB is a better choice for printing since it has a broader spectrum than SRGB. Thus, reconfigure it to Adobe RGB. Some cameras can shoot in Adobe RGB. Make sure that the Printer *does not* manage color.

Camera has a color system. Adobe has its own color system. Every printer has at least one color system, some have multiple. Monitors are another animal, and have an issue of calibration. Each device is trying to calibrate color from device to device, interpret it from one configuration to another.

Going to Photoshop to the type of paper is the most important calibration we need to take into account. In other words, we're not doing any color calibration from Adobe to printer.

Use Photoshop to manage the color profile, using info about the paper. Check print handout for profiles we'll use. Some key ones: Ilford (IGS ones), Inkpress (IP), MOAB, Epson (SPR). E.g. SPR 1900 (printer) Double Sided Matte Paper (paper). HP restricts ability to print any pics on any paper but their own – limit paper profiles to their paper. Recommends against HP and Kodak paper. Epson paper is really good, so is IP (calibrated the same as Epson and its cheaper, on occasion slightly thinner). Hanomoule is the top of the line on the market, most expensive. Careful about sources, such as buying Epson paper at Costco – may not have consistent color and consistent weight. Can also buy rolls of paper and then use what's desired.

Other popup buttons in Print Box:
Rendering Intent: Dealing with out-of-gamut colors
Black Point Compensation – check this! Without black, image can be flat. Keeps contrast on print.

STILL MORE in the Print Settings dialogue box.

Printing:
DEMO OF PRINTING:

1. Choose printer (in lab its Epson)
2. Choose Orientation
3. Choose Print Settings:
   a. Make sure Epson is selected
4. Choose paper size:
5. 8x10 on occasion
6. US Letter:
7. If not Letter all the wahy over and down
8. Go into Print settings: Only worry about basic:
   a. Choose paper to print on
   b. In most cases download the profile from the printer's website
   c. Note that papers vary e.g. Some papers in between a gloss and semi-gloss
   d. Print quality (print resolution) comes up as photo – choose Best
   e. High speed – choose this (possible calibration issues, but John hasn't noted any)
   f. Gloss optimizer – hardener sprayed on at the end. He generally turns it off, but it is option.
9. Photoshop Manages
10. Choose papers – Epson SPRs are at the top.
11. Check black compensation to get true black
12. Go ahead and print. The printer won't go until paper is in it.
13. Put paper in the printer and click button for it to start. Good to open top of the printer to see how it's printing out. If it looks wrong, can click power button to stop it.
14. Compare it to the on-screen visual to see how the color came out. Note that about 3-5 even 8% of light can be lost. A way of dealing with this would be to set the levels to make it slightly brighter before printing. Color should be pretty close.
15. Note: notebook has details.

Homework 3-5 in Print folder
2 in presentation folder