Forensic Photography - Review
Protocol

- Check your equipment and make sure you have what you need.
- Take overall or overview, medium or mid-range, and close-up photographs.
- Keep a log of your photographs or images.
- Ensure that you have a legal right to take photographs. Do you need a search warrant or a consent to search.
- Maintain chain of custody of the recording medium and developed images.
- Does your photograph or image truly and accurately reflect what you saw with your eyes.
Composition

- Include references: landmarks, street signs, scales, placards.
- Fill the frame with the subject matter.
- Set the camera for the maximum depth of field for clear images.
- Take photos with and without placards, and with and without scales.
- Fill flash, if appropriate to remove shadows.
- Create shadows for enhancement of detail.
- Tell a story sequentially and thematically.
Overall Photography

- Wide angle lens with 35mm, and/or video with zoom – outdoor/indoor.
- Move around the points of the compass.
- Show overall layout of scene, and spatial relationships.
- May need to repeat during the investigation.
Medium Range Photography

- They should still show some overall reference features.
- They should show more detail than overall.
- Scales and placards might be included.
Close-up Photography

- A tripod and remote shutter release are preferred.
- A 50mm lens and diopters is an inexpensive method.
- Sequence diopters, 4  +2 +1
- Focusing is crucial. Rough focus and then move the camera to the object.
- For cameras with adjustable lens, set the lens to the widest angle, activate the close-up icon, move the camera to the object.
- Always include one image with a scale for all impressions, bullet holes and bloodstains.
Side Lighting Photography

- Tripod and remote flash cord are preferred.
- For tire track and footwear impressions take photos with the flash held at 30 – 45 degrees, and held at 12.00, 1:30, 3:00, 4:30 and 6:00 on the clock dial.
- Bracket photos
- Focus and depth of field can be crucial.
- Painting with flashlight can work – especially with digital.
Soft Lighting and Bounce Photography

- May be used when other lighting methods “burn out” the image.
- Bounce may be from an object, ceiling, wall, and so forth.
- Soft lighting can be diffused lighting – through a screen or thin paper.
- Soft light may be with flashlight.
Time Exposure

- Most often used with Luminol, Fluorescent, and Alternate Light Sources.
- Tripod and remote shutter release are preferred.
- With Luminol, an f2.0 and 45 second exposure are standard.
- Bracket all time exposures.
Painting With Light

- A tripod and remote shutter release are required.
- Use a mid range f-stop (8 to 5.6).
- Set shutter speed on “B”, or use camera timer with digital and automatic cameras.
- Open shutter and lock, and walk to side, flashing every 15’. (May cover shutter, uncover with each flash, recover).
- Set flash on 40’, f/8.
- May use spotlight (?).
Fluorescent Photography

- Usually requires tripod, remote shutter release, and barrier filter with standard 35mm camera.
- Orange 18 is good all around filter.
- Consider digital camera with barrier filter for real time photos. This work with Fluorescein!
- May require close-up techniques.
Filters in Forensic Photography

- Alternate Light Sources and Fluorescent photos may require filters.
- The photo in the previous slide was taken with a #18 orange filter.
- A polarizing filter may be necessary to take photos through water or glass. They help reduce reflection and glare.
Fill Flash Photography

- This is most often done to lighten a darkened area.
- It can be done in the same manner as painting with light, but with a much faster shutter speed in daylight.
- The photo at right is a Luminol photo, f 2.0, two minute exposure, then bounce flash from the ceiling of the shower to fill in the shower area after the two minute exposure.
Special Techniques - Snow

- Photographing at night, in snow, can present special problems.
- Soft light using MagLites is a possibility.
- Lightly dusting the impression with a “dry” fingerprint brush is an alternative.
- Follow local policy on dusting impressions – photo first without dust.
- Painting with light is another technique – especially with digital.
Fire Scenes

- Fires may leave numerous obvious and subtle patterns.
- Fire damage may leave a very dark scene overall, with bright spots.
- It is very important to bracket photos at fire scenes.
- Consider enhancing flash settings by one stop or more.
- Fire scenes usually require more light than other scenes due to the absorption of light by the dark surfaces.
Survey The Scene

-One role of the crime scene photographer is to capture as much information as possible relating to the scene.

- Consider the crowd and on-lookers when taking overall photos.

- Some agencies like to have a set of exit photos to include exterior overall photos.
Camera Talk

Aperture = f-stop. It relates to the size of the opening in the lens.

Moving the f-stop down one full stop doubles the amount of light let into the camera. Moving up cuts the amount of light by \( \frac{1}{2} \).

Shutter speed refers to the time the shutter is open. A shutter speed of 1/1000 lets in less light than a shutter speed of 1/500.

Film speed refers to the sensitivity of the film or the digital sensor. ISO 100 is less sensitive than ISO 400.

Perspective refers to the spatial relationships in the image. Objects far away appear to be smaller and to converge along lines.

TTL refers to through the lens metering.

SLR refers to single lens reflex.

The preferred camera position is with your arms and elbows in as much as possible.

Level tripods and the camera, and take most photos from eye level.

Depth of field refers to the range of distances in which objects are in focus. An f-stop of f/22 gives greater depth of field than an f-stop of f/8.
Light Talk

- Light is measured by wavelength and the unit of measurement is usually the nanometer ($m \times 10^{-10}$).
- The human eye can usually see from about 350 nanometers to about 650 nanometers, violet to red.
- Light for photography purposes can be manipulated by shutter speed, aperture setting, film speed, filters, exposure control, lens type, flash, and extra light.
- Side lighting can help with shadows and enhancement of detail.
- Time exposure allows the opportunity for more light.
- Fill flash and painting are adding light techniques.
Camera Parts

- Film wind lever.
- Shutter plane and shutter speed setting ring or device.
- Flash attachment or hot shoe attachment.
- Depth of field scale. Remember to focus, look at the f-stop and then read the f-stop on each side of the focus distance for the depth of field distance.
- Focusing ring.
- F-stop ring.
- Flash synch speed.
- View finder and TTL.
- ISO setting ring or menu button.
Specific Scene Considerations.

- Photo a person's face and the injuries in domestic violence, assault and other crimes of violence.
- Fill flash in damaged shaded areas in vehicle accidents, and objects of interest in shaded areas in other scenes.
- Photo entry and exit in scenes.
- Increase the light at fire scenes.
- Include at least one photo or image with a scale for all impressions, bullet holes, and bloodstains and trace evidence.
Conclusion

- Take exit photos.
- Inventory your equipment.
- Secure your recording medium and mark for chain of custody.
- Enhance images from copies.
- Record enhancement techniques step-by-step.
- Establish throughout the photography process where you were at and where it was at – this usually requires noting times and dates.
- Prepare appropriate photography narrative reports.