570-PHN-ID - Photographie numérique

Class 01

Photography principles

- Camera obscura [Presentation : 1.02]

- Light capture / focussing of light / image inversion / focal plane [Presentation : 1.03]

Digital camera

- Point-and-shoot : [Presentation : 1.04]

    - Parallax correction [Presentation : 1.05]
    - Mostly automatic
    - Infinite depth of field (no blur effect)

- Reflex (DSLR)

    - No parallax correction need
      You see the image being taken through lens

Light trajectory in the camera [Presentation : 1.06]

- Lens
- Miror [Presentation : 1.07]
- Prism [Presentation : 1.08]
- Ocular (viewfinder)
- Shutter release
- Light meter
- Diaphragm (iris) (aperture)
- Shutter (curtains movement)
- Sensor

Sensor

- Role of the sensor

- Component of the sensor : [Presentation : 1.09]
    - Maxtrix = evaluates light intensity
    - Bayer grid = evaluates color patterns

- Crop / fullframe [Presentation : 1.10]
- Crop : focal length conversion (x1.6)

Lenses [Presentation : 1.11]

- Made of : different lenses (parts) [Presentation : 1.12] [Presentation : 1.13]
- Captures light / focuses light / doses light [Presentation : 1.14]
- Main technical quality factor of a photograph

Focal length [Presentation : 1.15]

- Lenses are called by their focal length (e.g. 50mm)
- Focal length = distance between center of the lens and the focal plane
- 2 types : fixed / zoom (variable length)
- Zoom designation = e.g. 17-40mm

Focal length / angle [Presentation : 1.16]

- Normal focal (35-80mm, usually 50mm)
  - Close to human vision
  - Realistic camera-subject's distance
- Long focal (over 80mm)
  - Decrease camera-subject's distance
  - Narrower angle
  - Subject seems closer
- Short focal (wide angle, under 35mm)
  - Increase camera-subject's distance
  - Wide angle
  - Subject seems further
- Long focal = narrow angle
  Short focal = wide angle

Lenses' main perverse effects

Long focal :

- Compression : decreased depth between the element [Presentation : 1.17]
  Elements seem closer to each other (z axis) [Presentation : 1.18]
- Meanders : straight perspective lines appear distorted
- Mirage : water seems like cover the ground (on sunny days) [Presentation : 1.19]

Short focal (wide angle) :

- Distorts perspective [Presentation : 1.20]
- Distortion increases as the camera gets closer to the subject [Presentation : 1.21]
- Expansion : increased depth between the element
  Elements seem further to each other (z axis)
- Vignetting : image darker at corners [Presentation : 1.22]

Aperture

- Quantity of light the lens let in the camera's body

- Designation : F factor (e.g. f5.6) [Presentation : 1.23]
  f2.8, f3.5, f.4, f5.6, etc.
  Smaller number = bigger opening
  Bigger number = smaller opening

- Lens with smaller F factor = very expensive (f2.8, f1.4, f1)
- Allows to make pictures with lower light intensity

- Optimal aperture = More tones, tints, colors
  Too opened = overexposure
  Too closed = underexposure

- Lens more important than body
  Basic (cheaper) camera body with good lens = great option!

Shutter speed

- Can be adjusted [Presentation : 1.24]
  Designation : fraction of second (e.g. 1/250th of a second)

- Normal speed = 1/60 or 1/125
  Fast shutter = over 1/125
  Slow shutter = under 1/60 [Presentation : 1.25]

- Fast shutter = freezes movement [Presentation : 1.26]
  Slow shutter = creates motion blur (fast moving element = invisibility) [Presentation : 1.27]
  [Presentation : 1.28]
  [Presentation : 1.29]

ISO

- Sensor transform light info into electricity
  Not enough light = need to boost the electric signal

- Works like the volume of audio appliances

- Can create noise (especially in mid-tones)
  can be hard to remove using softwares

Interrelation between aperture, shutter speed and ISO

- Modifying one adjustment = need to compensate with other(s)

Assignment 1 (5 points)

Photowalk

- Using point and shoot, mobile phone or Camera on automatic preset
- Take many pictures
- Select the 10 best pictures

Class 02

Presentation of pictures made on class 1

Ask students what they like/dislike about the photographs

Difference between snapshots and photography : [Presentation : 2.02]

- Snapshot :
    - You « take a snapshot »
    - You capture someone, something with no intentions (else than immortalize it)
    - No control (or considerations) for the technical aspects
    - Composition considerations usually absent
    - Subject is part of the overall photograph
- Photography :
    - You « make » a photograph
    - You want to create emotion, an effect (you want to please to a certain extent)
    - Considerations for technical aspects (control of techniques and settings)
    - Great care for composition considerations
    - Subject is the center of attention

Main problems with amateur photographs :

- Technical aspects :
    - Focus
    - Infinite depth of field (no control)
    - Motion blurs
    - Exposure (over/underexposure)
    - Colors (white balance)
- Composition aspects :
    - No subject (there should be one : focal zone)
    - Framing / composition / subordination principles
    - Lack of originality / boring pictures
    - Disturbing element in the composition
    - etc.

Good vs bad photographs :

- Bad photography : [Presentation : 2.03]
    - Boring / unoriginal / uninteresting
    - Blur / motion blur
    - Subject centered
    - Head space
    - Uneven horizon
    - Lighting / harsh shadow
    - etc.
- Great photography : [Presentation : 2.04]
    - Framing
    - Subject center of attention (not centered)
    - Perfect exposure (rich colors + contrasts)
    - Subordination (priority order of content = hierarchy)
    - Image depth
    - Atmospheric perspective
    - etc.

Framing

Portrait or landscape : [Presentation : 2.05]

- You make better decision with practice
- To exclude some disturbing element
- Creates different effect (calm / dynamic)
- Usually :
    - Landscape : landscape, cityscape, panorama, wide, elements, etc.
    - Portrait : portrait, high elements, dynamic subjects, etc.

How to create interest : [Presentation : 2.06] [Presentation : 2.07]

- Learn to find what is interesting
- Find a different way to show your subject
- Try to create emotions (or ambiance)
- Use technical aspects to reinforce your photograph
- Apply the rules of composition (then break the rules)

Composition

Rule of thirds (and composition lines) :

The frame

- Already covered
- Part of reality we decide to show

The centers [Presentation : 2.08]

- Vertical and horizontal
- Can create symmetry
- Can help showing oppositions/similarity
- Left to right = progression (going)
  Right to left = regression (returning)

Ascending and descending (diagonals) [Presentation : 2.09]

- Can create opposition
  Upper part « crushes » lower part (superior)

- Descending (top-left to lower-right)
  Lazy eye slides down naturally

- Ascending (lower-left to top-right)
  Impression of progression / rising

Rule of thirds [Presentation : 2.10]

- Force lines (9 equal cases) + points of interest:
  - Horizon on one of the 2 lines
    Depends on where is the action (subject)
    Depends on the effect we want to produce
    Usually : eyes of subject on top line

  - Predominant subject on one of vertical lines [Presentation : 2.11]
    OR on a point of interest
    Other elements will feel secondary (subordinate) [Presentation : 2.12]

  - Construction lines [Presentation : 2.13]
    Lines present in the image

Negative space

- Space around your subject [Presentation : 2.14]
  Empty space = Use it! [Presentation : 2.15]
- Brings attention to your subject

Head space [Presentation : 2.16]

- Space over the head
- Eyes on first horizontal force line
- Not too much / but not too little (it has to beathe)

Nose space [Presentation : 2.17]

- Space after the nose
- IF NOT = looks like the subject bumps in a wall

Goo and bad nose-space / head-space [Presentation : 2.18]

Framing

Shot sizes [Presentation : 2.19]

- Some for decor (places)
- Some for subject within decor

humans / animal [Presentation : 2.20]

- Some shots for subject acting/interacting
- Some shot details subject's action
- Some shots = more psychological (as we get closer)

- Do not cut in articulations (in between)
- Children / animals = no aerial view
  get down to their level
- Musician : don't cut the instrument

Assignment 2 (5 points)

Photowalk

- Using point and shoot, mobile phone or Camera on automatic preset
- Take many pictures :
  - Try to show things differently (look for what is interesting)
  - Make sure there is a subject in your shot
  - Frame correctly
- Select the 10 best pictures

Class 03

Presentation of pictures made on class 2

Ask students what they like/dislike about the photographs
Comments on framing, composition, etc.

Amateur bad habits and solutions [Presentation : 3.02]

- Shoot from their height : [Presentation : 3.03]
- For great pictures :
    - Bent down, kneel down, lay on the ground
    - Climb on objects
    - Search for the best location to shoot (find an interesting angle)
    - Get to your subject's level (e.g. kids/animal)

Shot angles (vertical) [Presentation : 3.04]

- Eye level view (neutral) [Presentation : 3.05]
    - Slightly lower for women
    - Slightly higher for men
- High level view [Presentation : 3.06]
  Subject may seem crushed / inferior
- Bird eyes view [Presentation : 3.07]
  Gives a topographic impression
- Low level view [Presentation : 3.08]
  Gives superiority to the subject (like a monument)
- Worm eyes view [Presentation : 3.09]
- High view / low view [Presentation : 3.10]
  Camera parallel to the ground [Presentation : 3.11]

Other amateur's bad habit (axis) [Presentation : 3.12]

- Shoot facing the subject [Presentation : 3.13]
  No perspective / flat / boring

Shot angles (horizontal)

- Creates interest [Presentation : 3.15]
  Gives depth / perspective [Presentation : 3.16]
  [Presentation : 3.17]

- Shot angles :
  - Frontal [Presentation : 3.18]
  - 3/4 front (left/right) [Presentation : 3.19]
  - Profile [Presentation : 3.20]
  - 3/4 rear (left/right) [Presentation : 3.21]
  - Rear [Presentation : 3.22]

Assignment 3 (5 points)

Photowalk

- Using point and shoot, mobile phone or Camera on automatic preset
- Take many pictures :
  - Try to show things differently (look for what is interesting in any situation)
  - Make sure there is a subject in your shot
  - Frame correctly
  - Experiment the same subjects using different angles
- Select the 10 best pictures

Class 04

Presentation of pictures made on class 3

DSLR Cameras

Cameras we have :

[Presentation : 4.02]

- Canon Rebel T3i (EOS 600D)
- Canon 30-D (EOS D30)
- Canon 40-D
- Canon 50-D

Top view

[Presentation : 4.03]

- Lens release button (Be careful)
- Built-in flash + flash release button
- Hot shoe
- View finder
- Power switch
- Main dial + Mode dial
- Display button
- ISO button
- Shutter release button

The lens

[Presentation : 4.04]

- Zoom ring
- Focus ring
- Image stabilizer button

- Automatic / manual focus switch
  Focusing on automatic and manual modes

- AF points in the viewfinder
  Selecting AF points OR using center AF point on subject
  SET + Main Dial

[Presentation : 4.05]

Mode Dial

(See instruction manual for details)

3 zones :

[Presentation : 4.06]

- Basic zone (Amateur settings)
- Creative zone (More control over the settings)
- Image zone (Fast optimized settings for different situations)

Automatic (green square)

- Automatically adjusts all parameters for the best possible pictures :
  - Focus (When on lens AF mode)
  - Aperture (for more depth of field) + Flash (when needed)
  - Shutter speed (to avoid blurs)
  - ISO to avoid noise
- To take a picture :
  - Frame your subject
  - Push the shutter release button halfway through (wait for adjustments to be made)
    * Do not remove you finger from the button before taking the picture
  - Push the shutter release button completely
- Never use this setting

Portrait (Woman profile icon)

- Automatically sets the best parameters for portrait
- Shallow depth of field

Landscape (Landscape icon)

- Automatically sets the best parameters for landscape shooting
- Great depth of field
- Aperture set not to « burn » the sky

Action (Runner icon)

- Automatically sets the best parameters for shooting rapid actions (e.g. sports)
- Higher shutter speed
- Greatest depth of field possible in the circumstances

Macro (Flower icon)

- Make it possible to get very close to the subject (approx. 30cm)
- For extreme close up (zoom at maximum focal length)
- Examples : flowers, insects, textures, etc.

P (Program AE)

- Automatic adjustment of aperture and shutter speed
- Other settings can be adjusted manually (Set ISO properly)
- Useful when you need to shoot rapidly

Tv (Shutter speed priority)

- Set the shutter speed manually (Main dial)
- Aperture is set automatically
- Take the picture

Av (Aperture priority)

- Set the aperture manually (Main dial)
- Shutter speed is set automatically
- Take the picture

ISO adjustment

- Press ISO button
- Use Main Dial or Arrows to select the ISO
- Smaller ISO makes better images
  (High ISO when enough light makes a very nice illustration effect)

White balance

- Press the White Balance (WB) button
- Use Main Dial or Arrows to select the proper setting :
  (Auto White Balance (AWB) usually is very efficient in most of situations)
  - AWB (Auto white balance)
  - Sunny day
  - Shadow on a sunny day
  - Cloudy day
  - Tungsten light
  - Neon light
  - Custom white balance is also possible

Assignment 4 (5 points)

Photowalk

- 10 pictures including : macro, fast shutter, slow shutter, portrait, landscape

Class 05

Presentation of pictures made on class 4

In depth revision

Workshop (for students to finish their assignments)
OR learning activity

Class 06

INTRA EXAM

Class 07

Revision of the intra exam

The depth of field (DOF)

- Clarity zone in the image depth [Presentation : 7.02]
- Distributed 1/3 before and 2/3 after the focus point [Presentation : 7.03]
- Point and shoot optimize DOF
  Professional cameras manual settings allow to control DOF

Controlling depth of field

- Aperture : [Presentation : 7.04]
  - Smaller is the diaphragm opened (higher f factor, e.g. f22) = Deep DOF
  - Bigger is the diaphragm opened (lower f factor, e.g. f2.8) = Shallow DOF
  - That means more light allow more DOF
  - To vary aperture, you may adjust shutter speed or ISO
- Focal length : [Presentation : 7.05]
  - Shorter focal length (e.g. 35mm) = Deep DOF
  - Longer focal length (e.g. 300mm) = Shallow DOF
- Camera-subject distance : [Presentation : 7.06]
  - Shorter camera-subject distance = Deep DOF
  - Greater camera-subject distance = Shallow DOF

The light

The quality of light

- Hard light [Presentation : 7.07]
- Soft light

The properties of light

- Direct light (incident light) : [Presentation : 7.08]
  - Source directly lighting the subject
    (e.g. sun, flash, spot)
  - Sharp cast shadow
  - Specular possible

  - Useful for :
    Bringing out lines, shapes, textures...

  - When frontal : [Presentation : 7.09]
    Creates a flat subject

  - When angles : [Presentation : 7.10]
    Creates shadow bringing out subject features

  - Terminology : [Presentation : 7.11]
    - Center light (specular)
    - Highlight
    - Halftone
    - Terminator
    - Core shadow
    - Reflected light
    - Cast shadow
    - Occlusion shadow

- Indirect light : [Presentation : 7.12]
  - No directly lighting the subject :
    - Softer shadows
    - No specular
    - Diffused & bounced [Presentation : 7.13]
      Specular/diffused reflection [Presentation : 7.14]

  - Diffused : [Presentation : 7.15]
    - Light through different matters (refraction) :
      - Photo diffuser, grids, etc.
      - OR curtain, sheet, paper, etc.

  - Reflected (bounced) : [Presentation : 7.16]
    - Light bounced on a surface (reflection) :
      - Photo reflector (white, silver, golden)
      - White cardboard (flat or textured)
      - Light takes the color of the reflector

- Indirect natural light :
  - In a cast shadow (exterior) :
    - Very nice vivid colors obtained
    - No major contrasts

  - Natural light from a window (interior) : [Presentation : 7.17]
    - Variable results
    - Usually soft

Assignment 5 (5 points)

Photowalk

- Experiment with depth of field, direct and indirect light.
- Submit 10 final photos.

Class 08

Presentation of pictures made on class 7

The light (suite)

The nature of light [Presentation : 8.02]

- Natural light = The sun (Moon) :
  - Free and available
  - Variable quality (sometimes very nice and « natural »)
    Depending on location, season, weather, and time of the day
  - Beginners should start shooting with natural light

- Artificial light = Flash, spot, etc. [Presentation : 8.03]
  - Various types= (studio / available) [Presentation : 8.04]
  - Various nature (quartz, led, flash, tungsten, neon, etc.)
  - Various quality
  - Can be quite expensive (for studio gear)
  - Not easy to carry around
  - Takes time to set
  - Needs electricity
  - Not that easy to master

The temperature of light

- Light temperature gives it a color : [Presentation : 8.05]
  - Red/orange = cold light (e.g. photo taken with a domestic light bulb)
  - Blue = warm light (e.g. photo taken at noon)

- Light temperature is measured in Kelvin
- Importance of white balance
- Time of the day :
  - Golden hours :
    - Early morning / early evening [Presentation : 8.06]
      From half an hour before sunrise to an hour after [Presentation : 8.07]
      AND An hour before sunset, to about 30 minutes after
    - Dramatic images
    - Exaggerated colors : gold, yellow, red, magenta
    - Soft light (no major contrast)

  - Blue hours : [Presentation : 8.08]
    - Conditions don’t always occur BUT spectacular
      Sunset with very little or no clouds
      Right after the sun goes down behind the horizon
    - Yellow/orange light available in height

- Noon: [Presentation : 8.09]
  - Worst moment of the day for photography
  - Very blue light
  - Harsh and short cast shadows (if sunny) [Presentation : 8.10]
  - Portrait : nose shadow on upper lip
    Eyes may also be in shadow

- Afternoon :
  - Light gradually goes from blue to orange
  - Shadows are getting longer (high contrasts)
    Light angle is growing
  - Long shadows may be interesting [Presentation : 8.11]
  - Not very good for portrait [Presentation : 8.12]

- Night : [Presentation : 8.13]
  - Very low light (blue)
    Need to boost ISO (may cause noise)
    OR lower shutter speed (tripod needed)

- Clear sky : [Presentation : 8.14]
  - Direct light
  - Sharp cast shadows
  - Flares (specular) possible [Presentation : 8.15]

- Overcast (cloudy): [Presentation : 8.16]
  - Blue/green tints possible
  - Diffuse light
    Very soft or no shadows
  - Low contrasts (retouching often mandatory)
  - Very good light for portrait

- Open shade : [Presentation : 8.17]
  - In the shade of an object (e.g. building) on sunny day
  - Soft light (low contrast) [Presentation : 8.18]
  - Vivid colours

- Natural light from a window : [Presentation : 8.19]
  - Brings nice natural light
    If subject to close to window = flares (specular)
  - If other sources of light = different light colours

- Backlight : [Presentation : 8.20]
  - Subject between the camera and the light source
  - Often creates a shadow figure
    with a small angle = rim light

Importance of white balance [Presentation : 8.21]

- Insure colours correctness

The filters

- Before digital = used to correct light temperature
  We now do it on camera setting / Photoshop
- Some filters are really useful.

- UV: [Presentation : 8.22]
  - Nobody really agrees
  - It protects the lens
  - Cuts UV rays
  - May reduce the purple fringe
  - May cause flares and reflections
    Should be removed = nigh shooting
  - Cuts 1/2 stop of light (or less)
  - NOT very useful
    Most new lenses are anti-UV treated

- Polarizer:
  - Cuts angles light rays [Presentation : 8.23]
  - Cuts reflections (e.g. on windows, water, etc.) [Presentation : 8.24]
  - Concentrates colors [Presentation : 8.25]
  - Cuts light (2-3 stops)
  - For digital = Must be radial
    IF NOT focus auto-focus made on filter

- Neutral density : [Presentation : 8.26]
  - Cuts light
  - Allows longer shutter speed
    OR more opened aperture
  - Ideal for daylight long exposure shots [Presentation : 8.27]
  - Can be gradient [Presentation : 8.28]
  - Increases contrast

Final project (25 points)

- 10 final awesome pictures

- Evaluation on :

  - Subject :
    - Originality
    - Interest
  - Aesthetics :
    - Colour
    - Light
    - Composition
  - Technique :
    - Focus, exposure, shutter speed
    - Depth of fields
    - Level of difficulty

Class 09

Artificial lighting

- Amateur usually limit themselves to natural light
  especially while shooting in exterior locations

- It's a good idea to mix artificial and natural lighting
  in interior and exterior shootings

- Experienced amateur will often use a reflector to attenuate shadows
  but sometimes, it's not enough

Using artificial lighting as fill light

- On-camera flash outdoors : [Presentation : 9.02]
  - Can be used outside
  - To attenuate shadows
  - To bring a punch of light
  - It brings out the subject
  - Can be also be used in low light conditions [Presentation : 9.03]

- Other light source outdoors [Presentation : 9.04]
  - Spot or flash [Presentation : 9.05]
  - Main light and/or back light (hair light) [Presentation : 9.06]
    hair light = angled back light to produce rim [Presentation : 9.07]

Domestic lights

- Regular lamps or light bulbs / quartz
- Requires white balance (as always)
- BUT unstable light (result = bad image quality) [Presentation : 9.08]
  Many shots in a row won't give the same result (fast flickering light)
- Ballast needed (very expensive)
  Some domestic lights already have ballast (e.g. neon)

Studio lighting

- PROS :
    - You can control lighting completely
- CONS :
    - Can be expensive
    - Requires knowledge and experience
    - Requires space and electricity
- For shooting models : [Presentation : 9.09]
    - Bigger space
    - More and stronger light
- For shooting objects : [Presentation : 9.10]
    - Only requires a table
    - Backdrop
    - Basic light

Types of artificial light

Continuous light

- Easier to work with [Presentation : 9.11]
  You can see the result (e.g. shadows) [Presentation : 9.12]
- Light less intense than flash

Flashes [Presentation : 9.13]

- Experience needed
  Even with the modelling light
  you can't really see the result before shooting
- Very intense light released in a very short period of time

On-camera flash

- PRO : easy to use
- CON : Too close to camera
- SOLUTION :
    - Bounce flash (ceiling, wall or reflector) [Presentation : 9.14]
    - Diffuse flash [Presentation : 9.15]
    - Off-camera flash [Presentation : 9.16]
      [Presentation : 9.17]

Light intensity

- Light is measured in Lumen (metric) or Foot-candle (imperial)
- Lumen : Amount of light captured by a $1m^2$ surface at 1m distance
- Candle-foot : Amount of light captured at 1 foot distance (Daylight = 1 000 CF)
- Inverse-square law: [Presentation : 9.18]
  The intensity of light is inversely proportional to the square of the subject-source distance

  Example : At 3m, the light of a source is 9 times less intense than at 1m

Studio lighting setups basics

One point lighting

- One point = one light source (key) [Presentation : 9.19]
- COMMONLY : use a soft box to diffuse the light
- COMMONLY : use a reflector to fill the shadow side

- You can use a flag to limit light spill if needed
- Place the camera at a 45 degree angle in relation to the subject
  Direct light will create a highlight on the side of the face
- A light effect on the subject can make the picture more interesting

- Back lighting technique (Butterfly) : [Presentation : 9.20]
  - KEY LIGHT :
    behind the subject higher than the subject's head
    (Creates a rim and spilling a lot of light)
  - REFLECTOR :
    In front of the subject, lighting the face using spilled light from key source

- Overhead lighting technique : [Presentation : 9.21]
  - KEY LIGHT :
    Placed directly over the subject's head
    (slightly in front so light spills on the subject)
  - Isolates the subject + Helps darken the background
  - Subject should look up or eyes will be in shadow + cast shadow of nose
  - The use of a soft box can be interesting but less dramatic effect

- Overhead lighting technique (rim variation) : [Presentation : 9.22]
  - KEY LIGHT : Place behind the subject
    45 degree left/right spilling light over the subject

- Along the side of a wall : [Presentation : 9.23]
  - Subject placed along the side of a wall (1-2m away)
  - KEY LIGHT : lighting side of the subject opposed to the wall
    (spill light bounces on the wall to light the shadow side)
  - Creates dark background

- Source height :
  - For natural look, place source high (the sun comes from up there) [Presentation : 9.24]
  - Lowering the source to near eye-level allows for the eyes to be lit [Presentation : 9.25]
    Using a soft box makes a nicer result [Presentation : 9.26]
  - Source placed lower than eye level can have a creepy effect [Presentation : 9.27]

Two points lighting (cross technique) [Presentation : 9.28]

- Two points = Two light sources
- Cross technique : provides maximum effect in terms of light intensity
  Produces a very flat look to the scene and to the subject
- The absence of contrast does not create a natural or authentic look

- In 2-points lighting :
  The 2nd source is used as fill light (replacing reflector)

Three points lighting [Presentation : 9.29]

- Three points = Three light sources
- KEY LIGHT : dominant light source that defines the visible lighting and shadows.
  (Normally the strongest intensity out of all the three lights)
- FILL LIGHT : eliminate shadows created by the key light
  Should be placed directly opposite the key light
  Can be raised to the height of the subject but never lower than the subjects shoulders

Most common Portrait-Lighting Setups

Paramount Lighting (Butterfly/glamour lighting)

[Presentation : 9.30]

- Traditionally feminine lighting pattern
  BECAUSE it often hollows out cheeks and eye sockets too much
- Produces a symmetrical, butterfly-like shadow beneath the subject's nose
- Often emphasize high cheekbones + good skin

- Key Light :
  - Placed high (45 degree angle), directly in front of the subject's face
  - Should not be used on subject with deep eye sockets
    (no light will illuminate the eyes)

[Presentation : 9.31]

- Fill Light :
  - Placed at the subject's head height directly under the key light
  - Reflector must be used opposite these lights
    (to fill in the shadows on neck and cheek)

- Hair Light :
  - Opposite the key light
  - Should light only the hair
    (Should not skim onto the subject's face)

- Background Light :
  - Used low, behind the subject
  - Should form a semicircle of light on the background
    (so background tone grows gradually darker)

Loop Lighting

[Presentation : 9.32]

- Variation of Paramount lighting
- Most commonly used lighting pattern
- Ideal for subject with average, oval-shaped face

- Key Light :
  - Lower (A little over the head) + more to the side of the subject
    (so that the shadow under the nose forms a small loop)

[Presentation : 9.33]

- Fill Light :
  - Placed on the opposite side of the camera from the key light
    (close to the camera - fill light must not cast a shadow)

- Hair and Background Lights :
  - Used low, behind the subject
  - Should form a semicircle of light on the background
    (so background tone grows gradually darker)

Rembrandt Lighting (45-degree lighting) [Presentation : 9.34]

- Characterized by a small triangular highlight on the shadowed cheek of the subject (dramatic lighting)
- Most often used with male subjects
- Weak fill light to accentuate the shadow-side highlight

- Key Light : [Presentation : 9.35]
  - Lower (Almost eye-level) and farther to the side than in loop and Paramount lighting (almost comes from the subject's side)

- Fill Light :
  - Placed on the opposite side of the camera from the key light (close to the camera - fill light must not cast a shadow)

- Hair light : however
  - Often used a little closer to the subject for more brilliant highlights in the hair.

- Background and Kicker Lights :
  - Background light is in the standard position described above.
  - Kickers often used to delineate the sides of the face (particularly the shadow side)
  - AND to add brilliant highlights to the face and shoulders (careful for these lights not to shine directly into the camera lens)

Split light [Presentation : 9.36]

- Cuts the face in half (one completely in shadow, the other lit)
- Key light : Parallel to the subject [Presentation : 9.37]

Broad light [Presentation : 9.38]

- Broad = longer side of the subject's face is lit [Presentation : 9.39]
- Lit side of the subject is facing camera (instead of the shadow side)
- If the subject turns a little from the split light position = broad light [Presentation : 9.40]

Short light [Presentation : 9.41]

- Short = shorter side of the subject's face is lit
- Lit side of the subject opposes camera (shadow side is facing the camera)
- If the subject turns a little from the split light position = broad light

- NOTA : [Presentation : 9.42]
  Very easy to transition from the split, broad, short and Rembrandt lighting positions

The background

- IMPORTANT : use depth of field
  It isolates the subject (especially for portrait)

- USUALLY : Position subject as far away from the background as possible

Lighting ratio

- The difference between KEY and FILL lights should be : 3 stops
  (use light meter - nice mobile apps available)

- Measure key light facing the source
  than adjust fill light's intensity
  (dim or further it away)

Light-subject distance

- Light close to subject = soft shadows

- Light far from subject = harsh shadows

- Rapprocher l'éclairage du sujet

Light width

- WIDER light = soft shadows

- NARROWER light = harsh shadows

Class 10

Complete revision

Types, genres and styles of photography (selection)

Types (based on techniques)

Aerial Photography [Presentation : 10.02]

- Photographs taken from an aircraft or other flying objects (e.g. drones)
- Also from the height of some structures or natural elevation

Portrait [Presentation : 10.03]

- Also a genre
- Often a close shot (but not necessarily)
- Involves a person or a group [Presentation : 10.04]
- Captures the personality of the subject(s)
- Usually prepared shooting (lens, lighting, backdrop, posing, etc.)
- Can be part of different genres and styles (e.g. wedding, documentary, etc.)

High key

- Photograph in which lighting create a very white overall result with very low tonal range (usually no dark shadows) [Presentation : 10.05]
- Black and white or color [Presentation : 10.06]

High speed / long exposure photography

- Shutter speed giving special effects
- HIGH SPEED : freezes movements [Presentation : 10.07]
- LONG EXPOSURE : creates a ghostly motion blur [Presentation : 10.08] [Presentation : 10.09]

Low key [Presentation : 10.10]

- Photographs in which dark tones are major part of the image
- Light or specular are concentrated in certain areas
- Often mysterious, suggests shapes

Macro photography [Presentation : 10.11]

- Extreme close-ups of small objects or small forms of life (not usually visible to human eyes)
- Use of macro capable lenses (e.g. textures, insects, vegetations)

Monochrome photography

- Black and white [Presentation : 10.12]
- Black can be replaced by another color in image processing

Night photography

- Photographs taken at night
- With or without lighting (usually not)
- GOOD IDEA : concentrate on lights in the scene

Genres (based on subject)

Architectural photography

- Photographs of buildings (man-made structures) [Presentation : 10.13]
- Especially from an aesthetic perspective [Presentation : 10.14]
- Wide angle often used (to exaggerate perspective lines)

Candid photography [Presentation : 10.15]

- Photographs that are not staged (no preparation nor posing)
  Taken without the subject knowing
  (Usually part of street photography)
- May involve people, children, animals
- Use of long focal is useful to avoid being noticed by the subject

Concert photography [Presentation : 10.16]

- Photographs of concerts and musical events (rock concerts, etc.)
- Need a clear lens (e.g. f2.8, f1.4 : very often very low light situation)
- Often low speed shutter OR high ISO
  Need to forecast band members poses, etc.
- Musicians : never cut the music instrument
- Avoid flash to keep the lighting design
- Shoot from audience perspective
  BUT find other perspectives as well (e.g. from the stage)
- PLEASE : don’t use the 3-songs rule

Documentary photography [Presentation : 10.17]

- Chronicle of events (significant/relevant to history)
- Includes real-life covering
- Often testimonial of way of life, way of doing things, etc.
- Show the truth with an « objective » point of view

- VARIATION : Lifestyle photography :
  Tell a story in everyday life (can be staged)
- VARIATION : War photography

Event photography [Presentation : 10.18]

- Photographs of guests and occurrences of various events
- May include : weddings, parties, premieres, ceremonies, formal, etc.
- Photographer often hired to make the coverage of an event
- VARIATION : Sport photography

Fashion photography [Presentation : 10.19]

- Photographs devoted to display clothes and fashion items [Presentation : 10.20]
- Developed its own aesthetic [Presentation : 10.21]
- Use beautiful (or rarely singular) models and locations to enhance the items

Fine art photography

- Photographs as an art form [Presentation : 10.22]
- Based on artist's subjectivity and its intentions [Presentation : 10.23]
  (Most photography shows something or help selling something) [Presentation : 10.24]

Glamour photography

- Subject portrayed in erotic poses (naked or not) [Presentation : 10.25]
  (Erotic photography, no sexual acts)
- Men (beefcake) / women (cheesecake)
- Very aesthetic, poses, lighting, decor, etc. - Lots of editing
- Calendars, magazines, boudoir, etc. [Presentation : 10.26]

Nature Photography [Presentation : 10.27]

- Photographs of anything nature offers [Presentation : 10.28]
- Vegetation, animals, insects, geological [Presentation : 10.29]

Panorama

- Wide angle view of a physical space [Presentation : 10.30]
- Includes :
  - Panoramic photography :
    Artificially widen photographs using an image processing software
  - Landscape : Photograph of natural broad view (from afar) [Presentation : 10.31]
  - Cityscape: Photographs of city broad view (from afar) [Presentation : 10.32]

Photojournalism

- Form of journalism [Presentation : 10.33]
- Photographs employed to tell a news story [Presentation : 10.34]
- Differs from documentary, etc. in a very ethical framework (impartial...) [Presentation : 10.35]

Photowalking

- Activity in which a person or a group walks around in various locations each photographer grabbing pictures of what they are interested in [Presentation : 10.36] [Presentation : 10.37]
- Can include street photography [Presentation : 10.38]

Still life photography

- Also called *nature morte* [Presentation : 10.39]
- Photographs of inanimate objects
  Often a group of limited numbers of objects
- Includes food photography [Presentation : 10.40]

Street photography

- Related to candid and photo walking (and to documentary by some extents) [Presentation : 10.41]
- Doesn't need to involve street [Presentation : 10.42]
- Photographs decided on the moment (capturing moments, improvised) [Presentation : 10.43]

Urban photography

- Photographs displaying urban life, views and activities (cities, suburbs) [Presentation : 10.44]

Styles (based on approaches)

Abstract photography

- Photograph doesn't represent anything recognizable [Presentation : 10.45]
- May be a fragment of something bigger, texture, a pattern, etc. [Presentation : 10.46]
- Can also be the result of photo/editing software manipulation

Conceptual photography

- Photograph that represents an idea [Presentation : 10.47]
- Related to conceptual art

Stock photography

- Photographs taken with the purpose of selling them to stock companies (often licensed to specific uses) [Presentation : 10.48]
- Shows all kind of matters and things
- Used by graphic artists, advertising, etc.

Class 11

FINAL EXAM