

## VIDEO BASICS

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# 188.459 VIDEO PRODUCTION

1

# PROJECT OVERVIEW

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## PROJECT OVERVIEW

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### PROJECT ONE COMPOSITION

Create a video that contains examples of the following shots:

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**Field of View** XLS, LS, MS, CU, XCU, O/S, 2-shot

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**Framing** headroom, noseroom, framed subject

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**Linear perspective**

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**POV**

---

Overlapping planes

---

Shadows

---

Relative size

---

Mergers

---

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## PROJECT OVERVIEW

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### PROJECT ONE COMPOSITION

- ▶ Objective: Practice and understand shot composition
- ▶ Create a story (relationship between each shot)
- ▶ Each shot = 5 - 7 seconds (13 required, 4 optional)
- ▶ Add text overlay for each shot (must not be dominant)
- ▶ 2 minute limit (including intro/outro) - max
- ▶ Music is optional

DUE: APRIL 30, 2018

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# 1 PRODUCTION EVOLUTION

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## 1. PRODUCTION EVOLUTION

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### BEFORE & NOW

#### BEFORE:

- ▶ hollywood and broadcast television - only for the professionals

#### NOW:

- ▶ consumer video production - anyone who has a computer, camcorder and editing software

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## 1. PRODUCTION EVOLUTION

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### ANYONE CAN HAVE THE TOOLS...

...but you need to learn how to use them:

TECHNICAL ELEMENTS

plus

AESTHETIC ELEMENTS

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# PRODUCTION ENVIRONMENTS

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## PRODUCTION ENVIRONMENTS

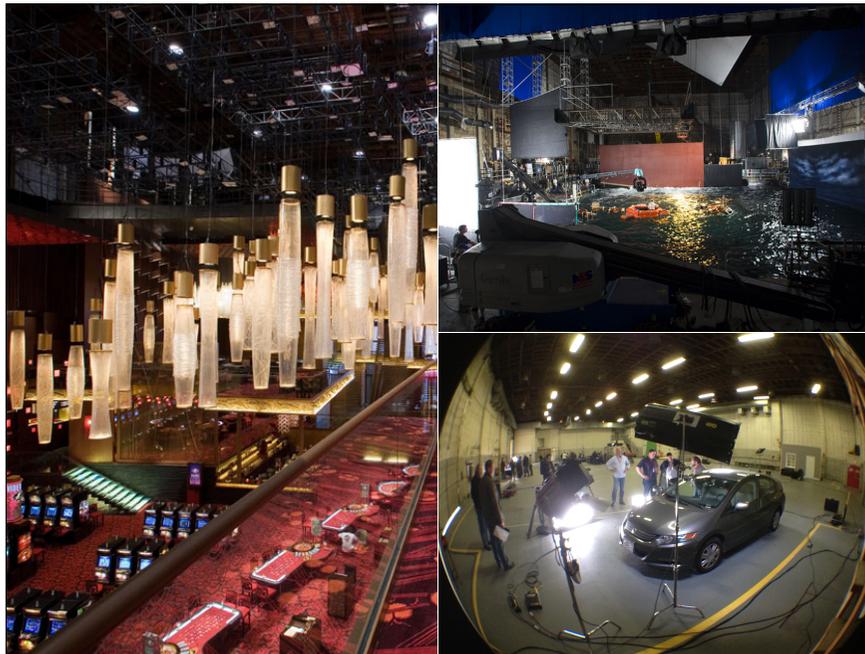
### STUDIO

- ▶ a controlled environment in which a producer or director has control of everything from electrical power to the lighting
- ▶ a large open space
- ▶ multiple, large cameras
- ▶ hanging lights
- ▶ sets, props
- ▶ cyclorama (blue screen)
- ▶ large amount of personnel

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## PRODUCTION ENVIRONMENTS

### FIELD PRODUCTION

- ▶ TV: ENG (Electronic New Gathering) or EFP (Electronic Field production)
- ▶ single-camera production



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## PRODUCTION ENVIRONMENTS

### POST PRODUCTION

- ▶ editing suites: linear and non-linear
- ▶ sweetening booth
- ▶ graphics department



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# 3 AESTHETICS

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## SHOT COMPOSITION

- ▶ position and angle of a camera relative to the subject or object and its surroundings
- ▶ helps to determine the feel of a production - its mood
- ▶ lighting and music

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## SHOT COMPOSITION

### WHY ARE SOME PRODUCTIONS BETTER THAN OTHERS?

- ▶ strong composition – visually pleasing
- ▶ creativity – learn the guidelines, patience

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## SHOT COMPOSITION: FIELD OF VIEW

- ▶ how much of a subject or object is seen

### LONG/WIDE SHOT (LS OR WS)

- ▶ establishes the scene by giving an overall view

### EXTREME LONG/WIDE SHOT (XLS OR XWS)

- ▶ used to create an establishing shot - provides a large area at once providing the audience the location

### MEDIUM SHOT (MS)

- ▶ most commonly used shot, usually frames people in a dialog (or relationship) (wide, medium, close up)

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## SHOT COMPOSITION: FIELD OF VIEW

### CLOSE UP (CU)

- ▶ object or subject fills the screen, used for fine detail and dramatic essence; person: tight shot of the head

### EXTREME CLOSE UP (XCU OR ECU)

- ▶ for more dramatic detail, person: eyes, nose and mouth are framed

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## SHOT COMPOSITION: PERSPECTIVE

### OVER THE SHOULDER (O/S) & REVERSE (R/O/S)

- ▶ camera is behind and over the shoulder of a subject - dialog

### 1-, 2-, AND 3-SHOTS

- ▶ refers to how many people are in a shot

### POV

- ▶ Point of view - from the perspective of the subject

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### 3. AESTHETICS

## SHOT COMPOSITION: DEPTH

- ▶ adding depth to a 2-D medium that represents a 3-D reality (use in relation with depth of field)

### LINEAR PERSPECTIVE

- ▶ parallel lines seem to meet in the distance giving the illusion of depth

### OVERLAPPING PLANES

- ▶ one object/subject covers another, giving the sense that the covering object is closer than the object it covers

### AERIAL PERSPECTIVE

- ▶ objects in a foreground are sharper and more color saturated than objects in the distance, we see them as being closer

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LINEAR PERSPECTIVE

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LINEAR PERSPECTIVE

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OVERLAPPING PLANES

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## AERIAL PERSPECTIVE

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### 3. AESTHETICS

## SHOT COMPOSITION: DEPTH

### RELATIVE SIZE

- ▶ objects closer to the camera will be larger and ones further from the camera are smaller suggesting these objects as being further away than the larger objects
- ▶ if size of object is important, use another known object to show its relative size (e.g. a stone compared to a 20 cent coin)

### RELATIVE HEIGHT

- ▶ objects that are higher in a plane will appear to be farther away than objects in the lower portion of the plane

### SHADOWS

- ▶ give depth perception - an attached shadow helps to realize an object as solid; cast shadows affect how near or far an object appears

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Relative  
Size



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Relative Size

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**Relative Height (& Shadows)**

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# GUIDELINES TO BASIC COMPOSITION

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### 3. AESTHETICS

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## GUIDELINES TO BASIC COMPOSITION

WHY ARE SOME PRODUCTIONS BETTER THAN OTHERS?

- ▶ strong composition – visually pleasing
- ▶ creativity – learn the guidelines, patience

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### 3. AESTHETICS

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## GUIDELINES TO BASIC COMPOSITION

FRAMING

- ▶ how a person or object is placed within the frame of the shot

- or -

- ▶ how a person or object is framed within the composition (ie. using trees, buildings, etc.)

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## GUIDELINES TO BASIC COMPOSITION

### HEADROOM

- ▶ distance between the top of the head (or object) and the edge of the frame

### NOSE ROOM

- ▶ distance between the nose (or eyes) or edge of an object and the edge of the frame
- ▶ crushing the nose on the edge causes uneasiness

### FRAMED SUBJECT

- ▶ subject is framed by something in the foreground, while the subject is in the background

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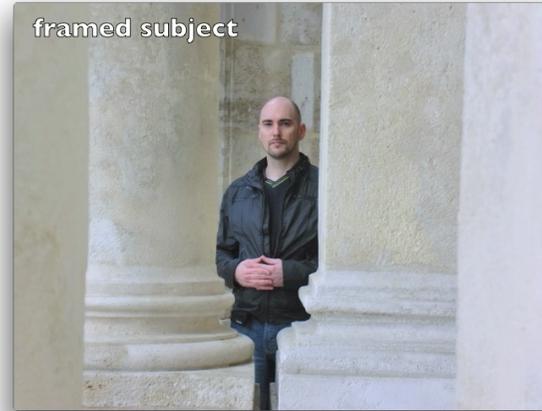
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no headroom



dead space



well framed



too much dead space

[Source:Lights Film School]

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well framed



no nose room



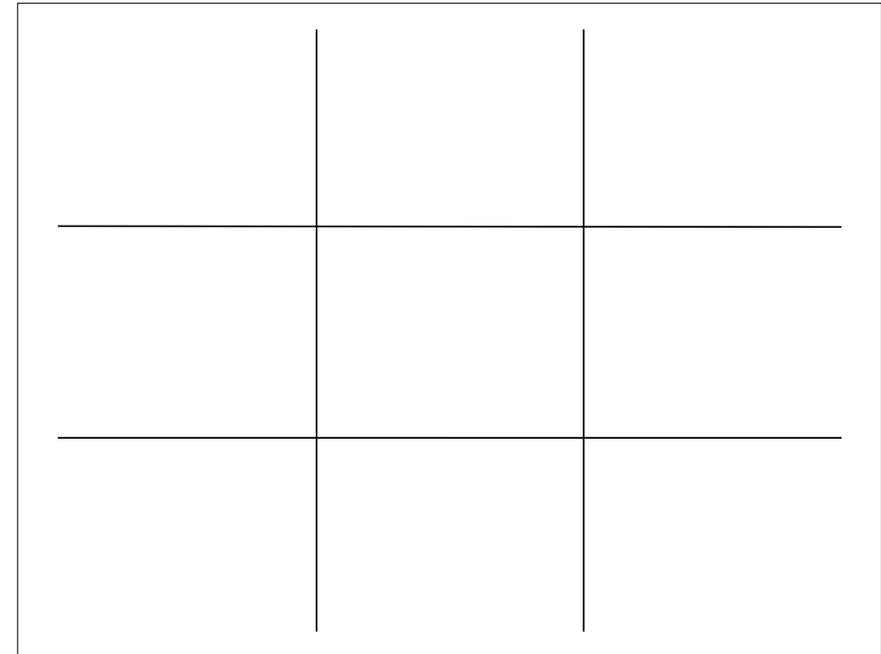
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## GUIDELINES TO BASIC COMPOSITION

### RULE OF THIRDS

- ▶ guideline for placing objects or people within a frame by dividing the frame into 3 equal parts both horizontally and vertically
- ▶ use to position eyes - usually placed on the top 3rd line
- ▶ dialog - nose is on a vertical line
- ▶ landscape - horizon is on lower or upper 3rd line with a feature of the landscape on a vertical line

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## GUIDELINES TO BASIC COMPOSITION

### LINES

- ▶ use naturally occurring lines to add emphasis and depth to the picture
- ▶ diagonal
- ▶ repetitive
- ▶ s-curve (roads, path)
- ▶ geometric shapes

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### 1. SECTION NAME

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## GUIDELINES TO BASIC COMPOSITION

### MERGERS

- ▶ avoid creating shots/pictures that, for example:
  - ▶ have objects “growing” out of a subject’s head
  - ▶ the main subject is lost within the composition - blends in
  - ▶ the subject is awkwardly cut-off (hands, feet)

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### 3. AESTHETICS

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## GUIDELINES TO BASIC COMPOSITION

- ▶ **Tilt:** audience’s view is at an angle suggesting imbalance
- ▶ **Camera looks down on subject:** suggests viewer (audience) is more powerful than the subject
- ▶ **Camera looks up to a subject:** suggests subject is more powerful than the viewer

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## VIDEO BASICS

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# 188.459 VIDEO PRODUCTION

# PROJECT OVERVIEW

## PROJECT OVERVIEW

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### PROJECT TWO – THE SHORT

#### CHOICE TWO: MUSIC PROMO (VIDEO)

- ▶ create an abstract video that follows a loose storyline, yet reflects a theme (usually provided by the song)
- ▶ choose a song that is between 2 and 3 minutes (no shorter, no longer)
- ▶ make use of image relationships to help realize the song, making use of dynamic editing:
  - ▶ images need to be bold, compelling, thematic
  - ▶ central theme between the images (an object, color, etc)

DUE JUNE 4TH, 2018

## AGENDA

1. Project Overview – Project 2
2. Production Process
3. Continuation of Aesthetics

## PROJECT OVERVIEW

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### PROJECT TWO – THE SHORT

Produce a short video - choose one of the following:

#### CHOICE ONE: URBAN LEGENDS

- ▶ create a narrative movie based on a local legend or tale (can be fictional or true)
- ▶ 3 minutes in length (no longer, no shorter)
- ▶ make use of continuity editing and realism:
- ▶ consistency (props, costumes, movement, sound, color)
- ▶ consistency of events (events happening in parallel)

# 2 PRODUCTION PROCESS

## PRODUCTION PROCESS

### DESIGN

- ▶ idea creation (creative writing, brainstorming)
- ▶ define the need (TV)

### PRODUCTION

- ▶ aesthetic development (shots, style)
- ▶ pre-production
- ▶ production
- ▶ post-production

### DISTRIBUTION

- ▶ how the production will be delivered

# DESIGN

## DESIGN

### CREATE A CONCEPT

- ▶ audience: Who is the target audience? Who will you be making your project for?
- ▶ main idea: What is the goal of the production?
- ▶ how will the production be shot?
- ▶ what kind of music will be used? Will there be any music?
- ▶ will someone be narrating the project? If so, female or male?
- ▶ how will the story be told?
- ▶ will it be a documentary, comedy or a romance?

# PRE- PRODUCTION

## PRE-PRODUCTION: TREATMENT

- ▶ the story outline or narrative description of a production that includes the basic program design and its major components depending on the type of production:
- ▶ the story
- ▶ major scenes
- ▶ main characters
- ▶ helps to refine the concept, develop a structure and flow to the production

## PRE-PRODUCTION: SCRIPT

- ▶ the complete written description of the production which includes what will be seen and heard
- ▶ setting
- ▶ action
- ▶ camera directions
- ▶ audio directions
- ▶ dialog

# PRE-PRODUCTION: SCRIPT

- ▶ Single-column script
- ▶ (standard screenplay/film script)
- ▶ scene transitions (fade in, fade out)
- ▶ scene location (exterior, interior)
- ▶ time of day
- ▶ characters
- ▶ dialog
- ▶ numbered scenes
- ▶ no shot descriptions - up to the director

Action

Setting & Location

Character Description

Dialog

ARCHIVE TELEVISION FOOTAGE

IT'S Election Day 1997. Up and down the country, the PEOPLE OF BRITAIN, people of all shapes and sizes and denominations, black and white, young and old, are going to the polls. Everyone, that is, except the people that live in...

EXT. BUCKINGHAM PALACE - DAY

The most instantly recognizable Palace in the world. The Royal Standard, (the flag of heraldic lions and symbolic harp-strings that signals the Monarch's presence), flutters on the roof.

INT. BUCKINGHAM PALACE - CHINESE ROOM DAY

We're in a state room at Buckingham Palace. A TV plays in the corner..

TV COMMENTARY

"..here's Tony Blair, just 43 years old, arriving at the polling station of his constituency in Bedfordshire."

QUEEN ELIZABETH II, wearing formal robes of the Garter, is posing for an official portrait by an elderly black PORTRAIT ARTIST, (representative, one assumes, of one of the many Charleses of which she is patron)..

ELIZABETH

Have you voted yet, Mr Crawford?

ARTIST (proudly dabbing palette)

Yes, Madam, I was there when they opened. First in line. Seven o'clock.

TV COMMENTARY

"If he wins, he'll be the youngest Prime Minister in almost two hundred years.."

He straightens..

ARTIST

And I don't mind telling you, it wasn't for Mr Blair.

ELIZABETH

Not a moderniser, then?

# PRE-PRODUCTION: SCRIPT

Multiple-column script  
 2-column script describing video and audio respectively  
 News, magazine shows, instructional programs, documentaries

Left column - video  
 type of shot  
 character & camera movements

Right column - audio  
 dialog, voice-over,  
 music, sfx

VIDEO	TIME	AUDIO
<b>TRANSITION</b> Video directions		MUSIC DIRECTIONS (Title, type) (SOUND EFFECT & AUDIO DIRECTIONS) TALENT: Actual Copy
<b>FADE UP TO</b> WS OF FRONT OF WENDY'S	:00	FADE MUSIC UP (Wendy's Theme) FADE OUT THEME
<b>DISS TO</b> INT RESTAURANT MS OF DAVE sitting at table holding burger.	:05	DAVE: You know, I never get tired of trying Wendy's products. Maybe it's because I just like to eat.

Single-camera production script

# PRE-PRODUCTION: STORYBOARD

- ▶ a visual representation of the major elements
- ▶ helps to visualize the camera angles and shots and perspectives
- ▶ helps to visually depict what the final program will look like chronologically
- ▶ sometimes used in conjunction with a script, or a script is not needed because of the detail a storyboard may include



# Storyboard

Title: Scene: Storyboard No:



Vision:  
Sound:



Vision:  
Sound:



Vision:  
Sound:



Vision:  
Sound:



Vision:  
Sound:



Vision:  
Sound:

## VIDEO BASICS

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# 188.459 VIDEO PRODUCTION

# PROJECT OVERVIEW

### PROJECT OVERVIEW

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## PROJECT THREE – A JOURNALISTIC EFFORT

- ▶ Create a 4-5 minute project that is either in a news/magazine format or a short documentary
- ▶ Include 3 or more interviews
- ▶ Show use of lighting (natural, studio)
- ▶ Show use of audio (soundtrack, recorded)
- ▶ Fiction or non-fiction

DUE: JUNE 25, 2018

# 360 VIDEO WORKSHOP

### 360 VIDEO WORKSHOP

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## ABOUT

- ▶ 2-day Workshop
- ▶ 2 hour sessions
- ▶ 1 project submission
- ▶ Attendance ot obligatory
- ▶ Register
- ▶ Groups of 3 (limited cameras)
- ▶ When: possibly in June – feedback needed

### 360 VIDEO WORKSHOP

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## WHAT YOU'LL NEED

- ▶ Premiere Pro or Final Cut Pro X
- ▶ An Android or iOS smartphone
- ▶ Ricoh Theta App
- ▶ optional: Viewer (Google Cardboard, Gear VR, etc.)

# PRE- PRODUCTION

## 2. PRODUCTION PROCESS

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### PRE-PRODUCTION: PLANNING

#### SCHEDULING

- ▶ location surveys, research, casting, crew hiring, rehearsals
- ▶ shooting schedule

#### BUDGETING

#### SELECTING CAST AND CREW

#### LOCATION SURVEYS

- ▶ check for aesthetics and technical aspects
- ▶ think of possible issues concerning logistics, cameras, lighting, audio, power, etc.

## 2. PRODUCTION PROCESS

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### PRE-PRODUCTION: PLANNING

#### LEGAL

- ▶ contracts, copyrights, releases

#### PRODUCTION

#### DELIVERY

## 2. PRODUCTION PROCESS

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### PRE-PRODUCTION: PLANNING

#### SCHEDULING

- ▶ location surveys, research, casting, crew hiring, rehearsals
- ▶ shooting schedule

#### BUDGETING

#### SELECTING CAST AND CREW

#### LOCATION SURVEYS

- ▶ check for aesthetics and technical aspects
- ▶ think of possible issues concerning logistics, cameras, lighting, audio, power, etc.

## 2. PRODUCTION PROCESS

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### PRE-PRODUCTION: PLANNING

#### LEGAL

- ▶ contracts, copyrights, releases

#### PRODUCTION

#### DELIVERY

## 2. PRODUCTION PROCESS

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### PRE-PRODUCTION: REHEARSE

- ▶ if it's a dramatic production, rehearsing can help in the production later down the road
- ▶ things like colors, makeup and lighting can be tested before actual shoot

2. PRODUCTION PROCESS

### PRE-PRODUCTION: RESEARCH

- ▶ research the topic of the production concept
- ▶ research eras, if needed (clothing, language, etc.)

2. PRODUCTION PROCESS

### PRE-PRODUCTION: CHECKLIST/CALL SHEET

- ▶ name of the production
- ▶ name and address of the location(s)
- ▶ name of contact person(s)
- ▶ directions to the location(s)

LOCATION CHECKLIST:

- ▶ time of day the shoot is planned - angle of sun, traffic, etc.
- ▶ power - where and what kind
- ▶ acoustics - audio needs for particular location

Dec 29, 2014	Shooting Schedule	Page #: 2
INT HOUSE - KITCHEN	Day	2/8
Scene # 6	WILL SEARCHES KITCHEN	
Cast Members	Props	
1.WILL	CARDBOARD BOX FRIDGE	
	Camera	
	STEADICAM	
	Set Dressing	
	KITCHEN ISLAND	
INT HOUSE - LAUNDRY ROOM	Day	1/8
Scene # 7	WILL SEARCHES LAUNDRY ROOM	
Cast Members	Props	
1.WILL	LAUNDRY HAMPER	
	Camera	
	STEADICAM	
	Set Dressing	
	WASHING MACHINE	
INT HOUSE - FRONT HALL	Day	1/8
Scene # 8	WILL WALKS THROUGH FRONT HALL INTO LIVING	
Cast Members	Camera	
1.WILL	STEADICAM	

**THE NEW**  
Production # 111  
Day 3 of 4

**DATE CALL SHEET IS DUE:** 12/29/14  
**LOCATION:** [Redacted]

**DATE CALL SHEET IS DUE:** 12/29/14  
**LOCATION:** [Redacted]

Scene	Time	Location	Camera	Lighting	Sound	Special
1	10:00	HOUSE - KITCHEN	STEADICAM			
2	10:30	HOUSE - LAUNDRY ROOM	STEADICAM			
3	11:00	HOUSE - FRONT HALL	STEADICAM			

**COMPANY MOVE UP/AUDIO/DIRECTOR/FOLLOW & LEAD CALL**

# 3 AESTHETICS

# CAMERA MOVEMENT

## CAMERA MOVEMENT

- ▶ **Pan:** horizontal movement of the camera (left-right)
- ▶ **Tilt:** vertical movement of the camera (up-down)
- ▶ Camera on a Dolly:
- ▶ **Dolly in/out:** forward/backward movement of the camera (towards or away from the subject)
- ▶ **Truck left/right:** moving the dolly (tripod) left or right
- ▶ **Arc:** move the camera in a semicircle around the subject

# DEPTH OF FIELD

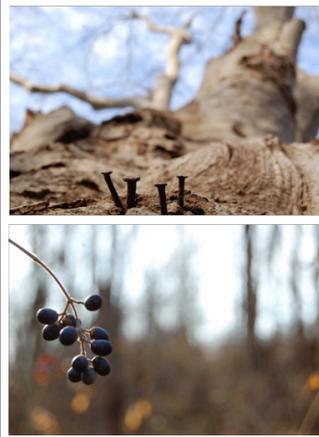
## DEPTH OF FIELD

the area of a scene that is in focus

Depth of field increases (deep)      minimal light (larger f-number)  
increase in distance from the camera to the subject

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Depth of field decreases (shallow)      large amount of light (smaller f-number)  
decrease in distance from the camera to the subject



SHORTENED DEPTH OF FIELD

INCREASED DEPTH OF FIELD



# 4 RECORDING TECHNIQUES

# EXPOSURE

## 4. RECORDING TECHNIQUES

### EXPOSURE

- ▶ ISO - sensitivity of sensor (film); noise (grain)
- ▶ Aperture/Iris - adjusts the amount of light coming in
- ▶ Shutter Speed - determines how long the shutter stays open

## 4. RECORDING TECHNIQUES

### EXPOSURE

#### ISO

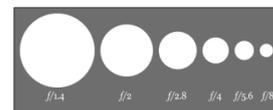
- ▶ International Organization for Standardization
- ▶ grain/noise/sharpness
- ▶ 100, 200, 400, 800, 1600
- ▶ sweet spot or base ISO
  - ▶ Nikon/Canon = 100-200
  - ▶ RED Scarlet = 800
  - ▶ GH4 = 800

## 4. RECORDING TECHNIQUES

### EXPOSURE

#### APERTURE

- ▶ measured in f-stops (adjusting exposure)
- ▶ incremental steps that represent the halving or doubling of light entering the lens
- ▶ the larger the opening the smaller the number



## 4. RECORDING TECHNIQUES

### EXPOSURE

#### SHUTTER SPEED

- ▶ correlate it to frame rate
  - ▶  $1/\text{frame rate} \times 2 = \text{shutter speed}$
  - ▶ 25 FPS = 1/50
- ▶ At 25 fps, a fast shutter speed like 1/120 will give jumpy results, while a slower speed like 1/30 will give slow, dreamy results

# RESOLUTION

## RESOLUTION

### ASPECT RATIO

- ▶ the proportional relationship between a screen's width and height

### STANDARD DEFINITION

- ▶ 4:3
- ▶ 640 x 480 - online
- ▶ 768 x 576 - broadcast

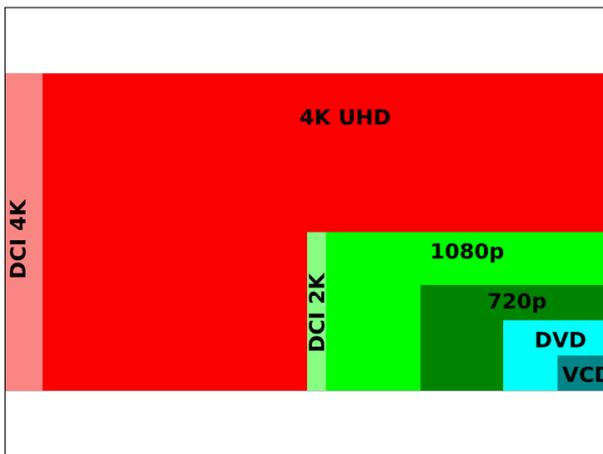
## RESOLUTION

### HIGH DEFINITION

- ▶ 16:9
- ▶ 1280 x 720
- ▶ 1920 x 1080
- ▶ 2k (1080p)

### ULTRA HD

- ▶ 3840 x 2160
- ▶ 4k (2160p)



## RESOLUTION

### WHICH RESOLUTION TO RECORD?

- ▶ depends on:
  - ▶ camera ability
  - ▶ storage
  - ▶ coverage needed
  - ▶ RAW or compressed

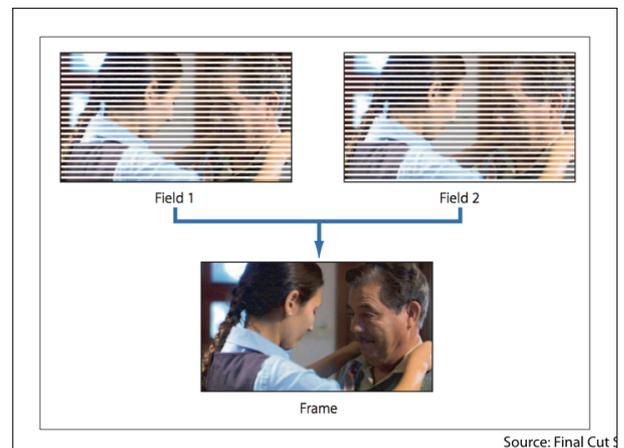
## SCANNING METHODS

### INTERLACED (I)

- ▶ 2 fields of a frame are scanned separately to perceive a higher frame rate
- ▶ field is made up of 1/2 the total amount of scan lines (PAL = 625; NTSC = 525) of either the odd numbered lines or even numbered
- ▶ TV sets and computer monitors (CRT)

### PROGRESSIVE (P)

- ▶ scans a whole frame, line after line
- ▶ HDTV sets and computer monitors



## SHOOTING WITH COMPRESSION IN MIND

- ▶ evenly lit and solid backgrounds will compress better than dark and patterned backgrounds
- ▶ fine detail and change in color are difficult
- ▶ movement is difficult (use a tripod when necessary)
- ▶ background movement is difficult
- ▶ but do not compromise your project for compression - just realize it may take more time
- ▶ record a native codec: ProRes, Avid DNxHD

## SHOOTING FOR THE MOBILE DEVICE IN MIND

- ▶ the shorter the better
- ▶ try to stay away from shaky-cam
- ▶ story and compositions must be more defined and clear
- ▶ use close-ups more often as detail in wider shots is harder to see in small playback window
- ▶ text can be problematic; for credits, choose to put a few credits on separate frames, rather than a rolling credit
- ▶ choose either a very audio centric project or choose to use mono audio to save space

# CHROMA KEY

## CHROMA KEYING

- ▶ record a subject/object using a blue or green screen
- ▶ process of compositing - combining 2 or more video images into one
- ▶ blue and green are color of choice (however, other colors could be used) because:
  - both are primary colors (TV system is based upon) & can be easily isolated & subtracted from the picture
  - blue is not found often in human skin tone, but found often in clothing
  - hence, the (highly saturated) green screen, since this color is not worn much

## SHOOTING FOR CHROMA KEY

- ▶ background screen must be as evenly lit as possible - creating no shadows
- ▶ subject should also be lit without casting shadows on the screen
- ▶ screen should not spill onto the subject (reflecting color of screen)
- ▶ lighting on subject should match the lighting of the intended background (if want it to be realistic)

## SHOOTING FOR CHROMA KEY

- ▶ the cleaner the edge, the easier to key out the blue screen - stay away from wispy hair, smoke, fuzzy clothing (especially with DV as the compression makes it harder to define the details)
- ▶ the subject and background should be framed to work well with each other (believable)
- ▶ medium and CU shots work best
- ▶ subjects should not wear blue if being shot in front of a blue screen (same goes for green screen/green clothing)

# FOR EDITING

## 4. RECORDING TECHNIQUES

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### SHOOTING FOR EDITING

#### SINGLE CAMERA

- ▶ shoot establishing shots to set the scene
- ▶ cover the principle action (live)
- ▶ repeat the action to provide different angles of the action - this will give different shots to choose from providing a better mix of shots
- ▶ cut-aways (coverage/B-roll): should be 7-10 seconds long and view or highlight something that is being spoken about, etc.
- ▶ shoot material for transitions
- ▶ record enough pre-roll (5 secs.) (7secs for HDV) for handles - extra footage in clip needed for transitions

## 4. RECORDING TECHNIQUES

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### SHOOTING FOR EDITING

#### B-ROLL

- ▶ record enough coverage or B-roll (variety of shots with different framings and angles) to compensate for needed cut-aways

#### ACTION LINE

- ▶ make sure all dialog shots are shot in front of the action line to avoid jump cuts
- ▶ placing the camera in a 180° arc and not crossing the (imaginary) line

X

## 1. SECTION NAME

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### SHOOTING FOR EDITING

#### CONTINUITY EDITING - RELATIONAL CUTTING

- ▶ arranging shots/edits in an order that creates a relationship suggesting an order of events, keeping action moving along smoothly without discontinuous jumps

#### DYNAMIC EDITING

- ▶ slightly more complex than continuity editing & uses visual material to create impact rather than just creating relationships

# 5 EDITING

## THE EDITING PROCESS

### OFFLINE

- ▶ capture the footage
- ▶ prep the footage - review and log

### ONLINE

- ▶ edit
- ▶ render and finalize for output

## THE EDITING PROCESS

### CAPTURING

- ▶ process of getting tape-based video into the computer

### TRANSFERRING [IMPORTING]

- ▶ process of getting non-taped-based video (file-based) into the computer

## THE EDITING PROCESS

### LOGGING

- ▶ process of choosing shots/scenes from the raw video footage

### EDL - EDIT DECISION LIST

- ▶ list of edits to be made in the online session
- ▶ Reel/Tape number, In and Out points, shot description

### HANDLES

- ▶ extra footage at the beginning and end of a clip

## THE EDITING PROCESS

### TIMECODE

- ▶ a timestamp burned into each frame of video that records in hours, minutes, seconds, frames
- ▶ HH:MM:SS:FF = 01:05:40:18
- ▶ **non-drop-frame:** PAL, HD
  - ▶ HH:MM:SS:FF
- ▶ **drop-frame:** NTSC, periodically drops frame numbers (not video frames) to run at 29.97 frames per second (fps) (DV)
  - ▶ HH:MM:SS;FF

# EDITING TECHNIQUES

## CONTINUITY EDITING/RELATIONAL CUTTING

- ▶ arranging shots/edits in an order that creates a relationship suggesting an order of events, keeping action moving along smoothly without discontinuous jumps

### TO ESTABLISH A SCENE:

- ▶ use an establishing shot to identify the location and orient the viewer
- ▶ go to a cut-in: close-up shot to show detail within the scene
- ▶ go back out with a cut-out: out to a wider shot especially if action is about to happen

## CONTINUITY EDITING/RELATIONAL CUTTING

### TO MAINTAIN ACTION CONTINUITY AND RELATIONSHIP

- ▶ objects/characters moving in one direction should stay moving in same general direction from shot to shot (Action Line comes into play here)

### RELATION:

- ▶ Shot 01: person A is running from left to right
- ▶ Shot 02: person B is running from right to left
- ▶ relationship: person A and B will eventually meet/cross

### ORIENTATION:

- ▶ Shot 01: WS person A running from left to right
- ▶ Shot 02: CU person A's face (right side)
- ▶ Shot 03: MS person continuing in same direction

## CONTINUITY EDITING/RELATIONAL CUTTING

### TO ESTABLISH DIRECTION OF VIEW AND POSITION OF A TARGET OBJECT:

- ▶ use the eyeline: line created by the eyes when looking at a target object

### CUTS MOTIVATED BY SHOT CONTENT:

- ▶ someone says "look over there" → over there (CU)
- ▶ see blood on floor → person with knife in hand

### OTHER:

- ▶ lighting and color
- ▶ sound
- ▶ appearance of subjects

## DYNAMIC EDITING

- ▶ slightly more complex than continuity editing & uses visual material to create impact rather than just creating relationships
- ▶ maximizes the impact of a scene by using unusual angles or extremely tight shots (ECU)
- ▶ discontinuous time: flashback, flashforward, parallel cutting (to separate actions happening at same time in two different places)
- ▶ edited to music - a regular beat, melody, crescendo
- ▶ timed cut - shot length is determined by time (as opposed to content)

# 5 LIGHTING

## BASIC CONCEPTS

### BASELIGHT

- ▶ base illumination level or optimum light level
- ▶ the minimum amount of light needed for the camera to function properly (usually found in the camera's operating manual)
- ▶ optimum baselight for most cameras = 1500-2000 lux to produce a good quality picture (don't confuse with minimum light level)

## BASIC CONCEPTS

### MEASURING LIGHT INTENSITY

#### Light meter

- ▶ measures light in either lux or foot-candles and are used to measure either incident light or reflected light

#### Incident Light

- ▶ amount of light falling on a scene

#### Reflected Light

- ▶ amount of light reflected off a scene



## BASIC CONCEPTS

### CONTRAST RANGE/RATIO

- ▶ difference between the darkest and lightest areas of an image/scene (ratio of bright to dark)
- ▶ a scene should be somewhat evenly lit - no hotspots (overly bright areas) or very dark areas
- ▶ consider what happens when a photo is taken of someone standing in front of a window

## BASIC CONCEPTS

### COLOR TEMPERATURE

- ▶ the measurement of the variations of "white light" a camera sees (*white light to the eye, may not be the same white that the camera sees*)
- ▶ measured in degrees Kelvin (°K)
- ▶ important for creating a scene that looks natural to us - if a camera has no reference for white, it cannot correctly compensate for the differences in color temperature (blueish or reddish colors)

2 ways to solve the problems of differences in color temperature:

- ▶ control the light
- ▶ adjust the camera accordingly

Color Temperature	Light Source	General Description
1800°K	open flame	warm (red evident)
2000°K	warm-shaded household lamp	
2800°K	unshaded frosted white household lamp	
<b>3200°K</b>	TV studio standard lamp (tungsten halogen)	
3500°K	home-type photo floodlight	cool (blue evident)
4800°K	household fluorescent lamp	
<b>5600°K</b>	direct sunlight (noon)	
6500°K	overcast daylight	
8000°K	blue sky	

## BASIC CONCEPTS

### LIGHT SOURCES

#### Studio light = controlled

- ▶ studio lights emit a color temperature of 3200°K (remains constant) and cameras can be adjusted to it

#### Field light = harder to control

- ▶ different types of indoor (household) lights emit different color temperature
- ▶ if using lighting instruments to supplement existing lighting, the supplemented light needs to match the existing lighting (use of gels)
- ▶ important to set white balance - especially if light source is mixed

## BASIC CONCEPTS

### WHITE BALANCE

- ▶ compensates for differences in light source by setting the white balance to the dominant color temperature - allows the camera to accurately produce white
- ▶ use of presets - incandescent, fluorescent, outdoor, tungsten halogen
- ▶ set manually - focus camera on to a white card (or source) that is illuminated by the dominant light source (usually the most accurate)

## BASIC CONCEPTS

### WHITE BALANCE

#### Tip

- ▶ when scene or light changes (especially when talent moves), re-white balance

#### How-to (video camera)

- ▶ zoom in to a flat white source, filling the frame
- ▶ press the white balance button

# TYPES OF LAMPS

## 5. LIGHTING

### LAMPS

#### HOUSEHOLD LAMPS

- ▶ incandescent
- ▶ give off a very red color temperature

#### TUNGSTEN HALOGEN LAMPS (QUARTZ HALOGEN, QUARTZ LIGHTS)

- ▶ industry standard
- ▶ tungsten filament
- ▶ quartz glass bulb filled with halogen gas
- ▶ 3200°K
- ▶ never touch the lamp with bare hands - oil from the skin may cause the bulb to explode when it gets hot

## 5. LIGHTING

### LIGHTING: LAMPS

- ▶ Fluorescent Lamps (pro)
  - ▶ 3200°K (so they match the tungstens) - indoor
  - ▶ 5600°K - outdoor
  - ▶ produce a soft (flat) light and can be diffused over a large area - great for lighting blue/green screens
- ▶ HMI Lamps
  - ▶ Hydragyrum Medium Arc-Length Iodide
  - ▶ 5600°K
  - ▶ used to light large outdoor areas

### HMI LIGHT AS MOONLIGHT



<http://smithleedesign.com/HBO-s-Cinema-Verite>



# LIGHTING TECHNIQUES

5. LIGHTING

## LIGHTING TECHNIQUES

### 3-POINT LIGHTING

- ▶ allows for modeling - creating dimensionality of the subject (used to avoid "flat" lighting)

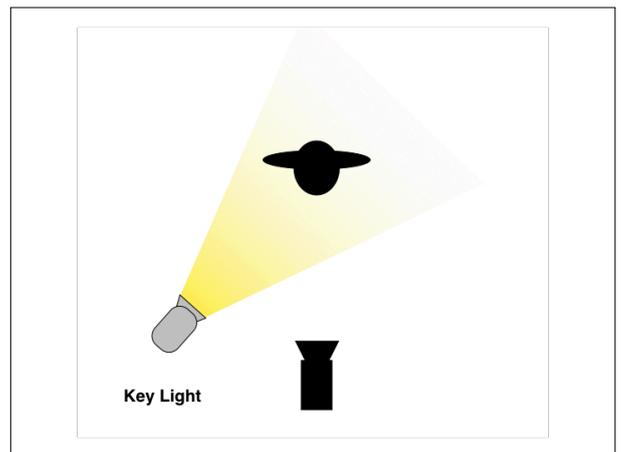
5. LIGHTING

## LIGHTING TECHNIQUES

### 3-POINT LIGHTING

#### Key Light

- ▶ first and main light on the subject
- ▶ usually the brightest light
- ▶ creates hard shadows
- ▶ approximately placed 30-45 degrees above the camera-subject line (not always)
- ▶ approximately placed 30-45 degrees to the left or right of the camera-subject line



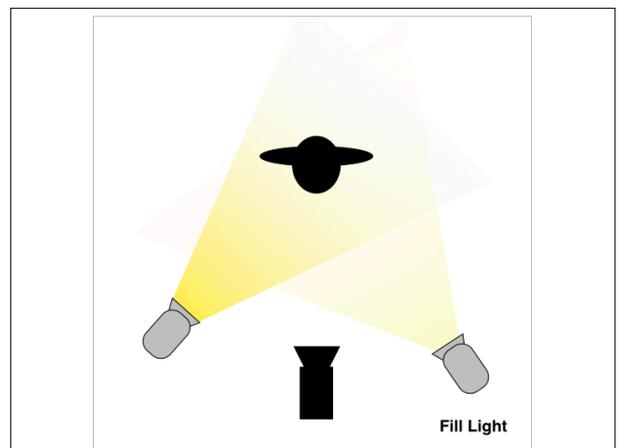
5. LIGHTING

## LIGHTING TECHNIQUES

### 3-POINT LIGHTING

#### Fill Light

- ▶ fills in some of the the harsh shadows created by the key light
- ▶ adds an overall illumination of the subject - more warm/soft
- ▶ usually placed on the opposite side of the key and can be place with in same line of the camera-subject line
- ▶ can be a reflector or light (soft light or flood)
- ▶ usually about half the illumination level as the key

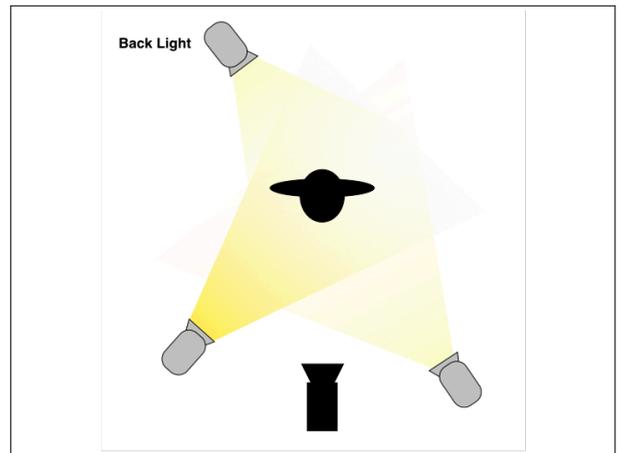


## LIGHTING TECHNIQUES

### 3-POINT LIGHTING

#### Back Light

- ▶ separates the subject from background
- ▶ highlights the back of the head/hair and clothing
- ▶ about the same brightness as the key (can be more or less)
- ▶ placed behind and above the subject



## LIGHTING TECHNIQUES

### 3-POINT LIGHTING

#### The 4th light

- ▶ sometimes a fourth light is used to light the background or add color

Avoid background shadows:

- ▶ raise the key light higher in order to avoid casting hard, short shadows on the background
- ▶ keep the subject at a distance from the background - keep the shadows on the floor

# LIGHTING TIPS

## LIGHTING TIPS

### APERTURE/IRIS

- ▶ lets in either more or less light depending on how wide or narrow the iris is set - based on f-stops

If possible, set the aperture manually:

- ▶ better control over exposing different areas of the frame, hence allowing more shot opportunities
- ▶ for example, if you shoot a person standing in front of a window, you can set the aperture to expose the person correctly while allowing the background to be somewhat abstract and vice versa, allowing the person to be silhouetted

## LIGHTING TIPS

### ZEBRA LINES

- ▶ found in most prosumer camcorders which show what areas of your scene are overexposed - called hotspots
- ▶ if you see them, you *might* need to change your exposure or change your lighting set-up

## LIGHTING TIPS

### SHOOTING OUTDOORS

- ▶ shooting on a bright sunny day is not the best time to shoot
  - ▶ difficult to get right exposure for varying brightness within a frame; a very sunny area and a shaded area
  - ▶ creates very hard shadows
  - ▶ causes people to squint
- ▶ for a more even light, shoot on an overcast day

## LIGHTING TIPS

### NEUTRAL DENSITY FILTER (ND FILTER)

- ▶ either a glass filter or a built-in feature of a camera
- ▶ darkens the picture in bright, sunny days without affecting the color temperature
- ▶ helps to control depth of field (to shorten)
- ▶ allows better aesthetic control over shots

## LIGHTING TIPS

### REFLECTORS OR BOUNCE CARDS

- ▶ used to reflect sunlight (or other light) onto the subject (usually as a fill light) - can easily smooth out harsh shadows
- ▶ plain white reflector will be bright and simply reflect the light
- ▶ a large, sturdy piece of cardboard can be covered with aluminum foil:
  - ▶ smooth foil will reflect a hard light
  - ▶ crinkled foil will better diffuse the light and better softening shadows
  - ▶ special gold foil can be used to reflect a warm light

# 6 COLOR AND CORRECTION

## VIDEO SIGNAL OVERVIEW

### LUMINANCE (Y)

- ▶ signal's brightness
- ▶ defines the blackest black and the whitest white of a video signal

### CHROMINANCE (C)

- ▶ the color part of the signal
- ▶ 3 channels: red, blue and green
- ▶ composed of hue and saturation

## VIDEO SIGNAL OVERVIEW

### HUE

- ▶ actual color

### SATURATION

- ▶ amount that hue is diluted by white
- ▶ for example, pink would be a lightly saturated red and a deep red be a saturated red.

## VIDEO SIGNAL OVERVIEW

### COMPOSITE

- ▶ analog recording systems and outputs (VHS, DVD)
- ▶ PAL/NTSC encode the video signal with the Y and C channels combined
- ▶ lower-quality playback image

### S-VIDEO (Y/C SIGNAL PROCESSING)

- ▶ Hi8, S-VHS
- ▶ Y and C channels are separate (component) but the Cr and Cb signals are combined to create the C channel
- ▶ produces better image quality than composite

## VIDEO SIGNAL OVERVIEW

### COMPONENT

- ▶ signal recorded via the color difference process
- ▶ signal is separated into:

#### Y (LUMINANCE)

- ▶ **R-Y** = red minus luminance (analog) or Cr (digital)
- ▶ **B-Y** = blue minus luminance (analog) or Cb (digital)

## VIDEO SIGNAL OVERVIEW

### HDMI

- ▶ High-definition Multimedia Interface
- ▶ digital signal carrying both video and audio
- ▶ HDTV, DTV, SDTV
- ▶ multi-channel audio
- ▶ best image quality

# MEASURING COLOR LEVELS

## MEASURING COLOR LEVELS

### BROADCAST-SAFE

- ▶ acceptable color levels for broadcast TV
- ▶ use 2 scopes (devices) to test the levels:
  - ▶ Waveform Monitor
  - ▶ Vectorscope

## MEASURING COLOR LEVELS

### WAVEFORM MONITOR

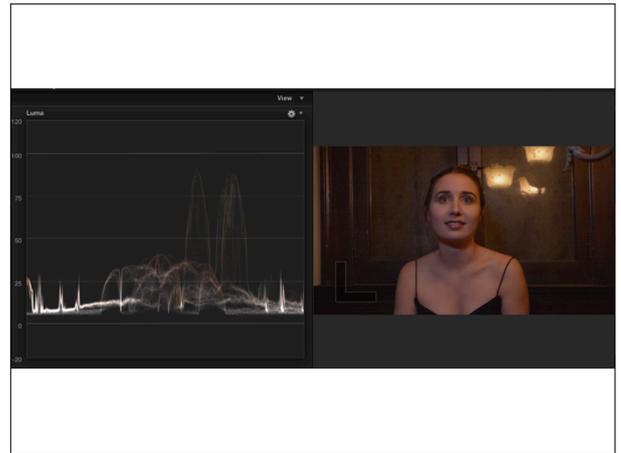
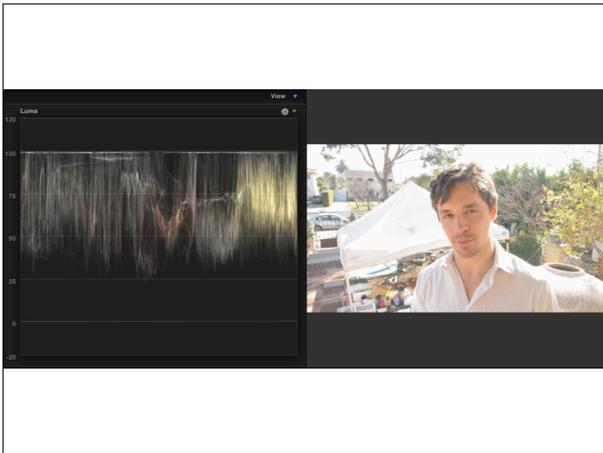
- ▶ checks luminance levels of a video signal

#### Peak White

- ▶ the brightest level a TV will successfully produce (or broadcaster may accept)
- ▶ reference white
- ▶ 100 IRE analog or 100% digital

#### Pedestal (Setup)

- ▶ minimal level of black that a TV will successfully produce (or broadcaster may accept)
- ▶ reference black (blackest black)
- ▶ 7.5 IRE analog or 0% digital



6. COLOR AND CORRECTION

## MEASURING COLOR LEVELS

### VECTORSCOPE

- depicts a color wheel, representing the primary colors (red, blue, green) and the secondary colors (cyan, magenta, yellow)
- shows which colors are present in the signal and their saturation levels (how much of the signal is present)
- used for adjusting (calibrating) cameras and monitors
- color bars used for reference

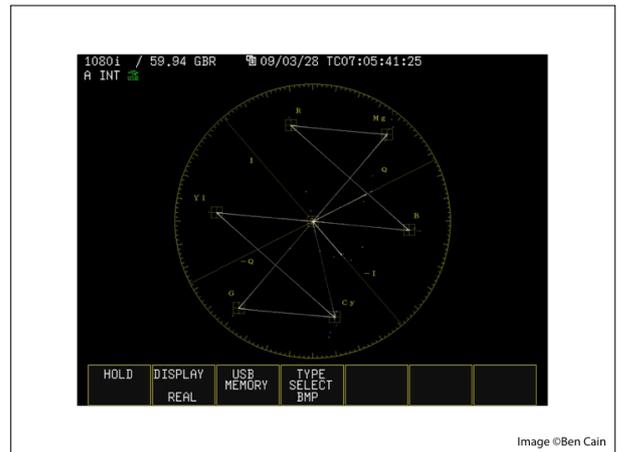
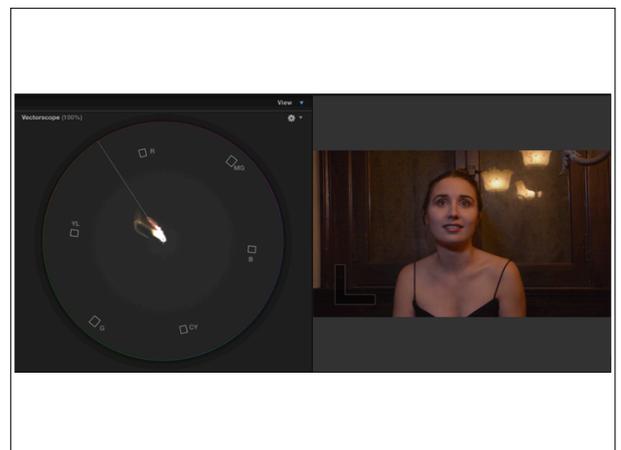
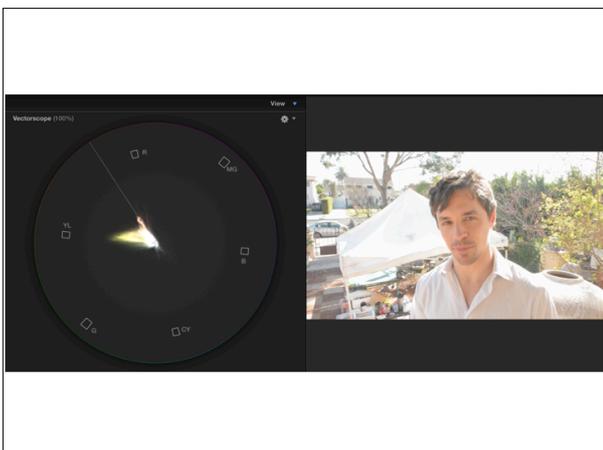
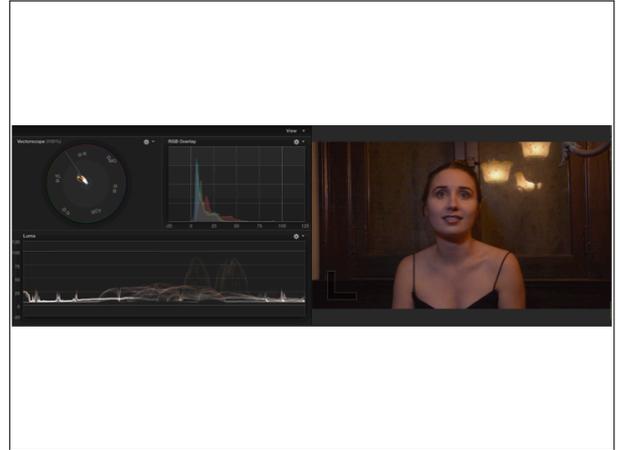


Image ©Ben Cain





# 7 BASIC DESIGN FACTORS

(FOR GRAPHICS IN VIDEO)

7. BASIC DESIGN FACTORS

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## BASIC DESIGN

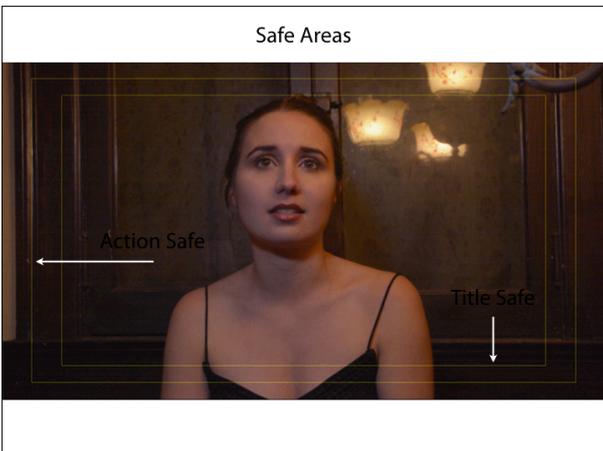
- ▶ TV screens tend to not show the entire image, especially older TVs

**ESSENTIAL AREA – TITLE SAFE AREA**

- ▶ a percentage of the full frame in which it is generally safe to assume that the picture within this area will be seen ( $\approx 20\%$  smaller) - not masked by TV

**ACTION AREA**

- ▶ a percentage of the full frame in which most modern TVs will be visible ( $\approx 10\%$  smaller)



7. BASIC DESIGN FACTORS

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## BASIC DESIGN

- ▶ handheld screen sizes are generally small - keep the graphics to a minimum (although they are getting larger with better resolution)
- ▶ complicated graphics can lose their meaning
- ▶ use strong simple text that contrasts well with the foreground/ background

7. BASIC DESIGN FACTORS

## BASIC DESIGN

### ASPECT RATIO

- ▶ if shooting 16x9 and displaying on 4:3 make use of the safe area
- ▶ keep action within the safe area so if it is cropped, the principle action is not lost

### OBJECT VISIBILITY

- ▶ graphics and titles should have good contrast - weak contrast can cause the graphic to be lost in the picture



7. BASIC DESIGN FACTORS

## ADDING TITLES

- ▶ use sans serif fonts (Helvetica, Arial)
- ▶ use bold
- ▶ avoid *small, thin fonts*
- ▶ avoid using black or white as font colors (choose a variation of black or white if there is no way to measure if the colors are broadcast safe)
- ▶ use the safe areas
- ▶ good contrast
- ▶ avoid scrolling titles

