Unit 1: Camera Fundamentals

Content Area: **Technology**
Course(s):
Time Period: **September**
Length: **5 weeks**
Status: **Published**

Enduring Understandings

In this unit, students will...

- explain how filmmakers produce quality video and audio products
- learn how to use the exposure triangle to produce certain film looks and analyze camera motion to create emotion in film
- explore the importance of stable shooting and quality audio to create a film that an audience will enjoy watching

Essential Questions

How do we properly expose the image in various lighting conditions?

How do each of the elements of the exposure triangle affect the image?

What are the various types of camera movements and what do they symbolize in film?

How do we utilize various forms of stabilization to create movement in film?

What is the role of audio in film? What are some methods we can use to capture compelling audio?

What are common resolution formats? What is the purpose of acquiring footage in these various resolutions and frame rates?

Content

Skills

In unit 1, students will...

- dial in a proper exposure to match the scene realistically.
- display knowledge of different frame rates through captured footage.
- manually focus on a particular subject with acceptable clarity.
- capture footage with a proper manual white balance.
- film a scene that observes the 180 degree rule.
- film stable footage and footage with smooth tripod motion.
- capture acceptable quality audio off camera through use of an external recorder.

Key Terminology:

Exposure

Aperture

International Standards Organization (ISO)

Shutter Speed

Rule of Thirds

Stabilization

Tripod

Monopod

Gimbal

SteadyCam

Shotgun

Mic

Lavalier Microphone

1080p

4K

High Definition

Standard Definition

Frame Rate

Resources

DSLRguide - Great resource for story development and also some technical advice on shooting.
https://www.youtube.com/watch?v=t33owpmMTfo

Wedding Film School - Mostly focuses on wedding shooting but a lot of techniques are covered.
https://www.youtube.com/watch?v=ELufjLfN1MM

D4Darius

Great breakdown of how stories are constructed. Also talks about motivation for cinematography.

https://www.youtube.com/watch?v=t1myw_0W5E8

film4

Great info from directors on classic films.

https://www.youtube.com/watch?v=FQMJePh0VYU

Indy Mogul

This was Griffen Hammonds old channel. Most of his stuff in a news format. Skip to two mins to get some good info on recording audio.

https://www.youtube.com/watch?v=_ZmxG_2q4A0

Wolfcrow.

This is a super technical channel that has great info about influential cinematographers. Might be a bit too complex, but a good challenge for advanced students.

https://www.youtube.com/watch?v=ewTwz4HCwOg

Every Frame A Painting

Great resource for understanding the editing process of major motion pictures https://www.youtube.com/user/everyframeapainting/

Standards

TECH.8.1.8.A.1	Demonstrate knowledge of a real world problem using digital tools.
TECH.8.1.8.A.CS1	Understand and use technology systems.
TECH.8.1.8.C.CS1	Interact, collaborate, and publish with peers, experts, or others by employing a variety of digital environments and media.
TECH.8.1.8.C.CS4	Contribute to project teams to produce original works or solve problems.
TECH.8.1.8.D.1	Understand and model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics including appropriate use of social media.
TECH.8.1.8.E.CS2	Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
TECH.8.1.8.E.CS3	Evaluate and select information sources and digital tools based on the appropriateness for specific tasks.
TECH.8.2.8.A.CS2	The core concepts of technology.
TECH.8.2.8.C.4	Identify the steps in the design process that would be used to solve a designated problem.