

PHOTOGRAPHY & CINEMATOGRAPHY

Comprehensive 12-Module Master Syllabus & Curriculum Guide

COURSE OVERVIEW AT A GLANCE

- Duration: 12 Weeks (120 Total Hours — 48 Lecture Hours + 72 Hands-on Lab Hours)
- Target Audience: Beginner to Intermediate Photographers, Aspiring Cinematographers, & Content Creators
- Core Prerequisites: Basic computer literacy; no prior camera operation experience required
- Primary Software: Adobe Lightroom Classic, Capture One Pro, DaVinci Resolve Studio
- Primary Hardware: Digital Single-Lens Reflex (DSLR) / Mirrorless Camera with Manual Controls

1. Course Objectives & Pedagogical Vision

This master syllabus is structured to bridge the gap between still photography and moving image production. Students begin with fundamental optical principles and exposure mechanics before branching into genre-specific still photography and advancing into cinematic visual storytelling, camera dynamics, color science, and video post-production.

- **Master Mechanical & Digital Controls:** Achieve complete fluency in exposure control, shutter timing, lens optics, and camera body settings across still and motion modes.
- **Develop Visual & Narrative Literacy:** Understand visual grammar, geometric composition, framing psychology, and spatial continuity in storytelling.
- **Control Light & Atmosphere:** Design and execute professional studio continuous and strobe lighting setups, controlling hard/soft ratios, color temperature, and mood.
- **Master Professional Post-Production:** Process uncompressed RAW images and Log motion footage using industry-standard applications (Lightroom, Capture One, DaVinci Resolve).
- **Execute End-to-End Production:** Collaborate in crew roles to plan, shoot, direct, edit, color grade, and finalize both a digital photo portfolio and a narrative short film.

PART 1: FOUNDATIONS OF VISUAL ARTS & OPTICS

MODULE 1: CAMERA MECHANICS & THE EXPOSURE TRIANGLE

Structure: 4 Lecture Hours | 6 Hands-on Lab Hours

Key Theoretical Principles & Topics:

- Anatomy of digital cameras: Mirrorless vs. DSLR architecture, mechanical vs. electronic rolling shutters.
- Sensor formats: Full-Frame, Super35, APS-C, and Micro Four Thirds; crop factors and pixel pitch.
- The Exposure Triangle: Aperture (f-stops and light transmission), Shutter Speed (motion blur control), and ISO (signal gain vs. noise).
- Reciprocal exposure logic, stop measurements (EV), native ISO, dynamic range, and clipping thresholds.

Practical Lab Assignment: Manual Exposure Calibration: Capture a high-contrast scene in full manual mode, demonstrating exposure equivalence across three distinct setting combinations.

Key Learning Outcome: Ability to operate camera controls in fully manual mode without reliance on automatic program modes.

MODULE 2: LENSES, OPTICS & DEPTH OF FIELD CONTROL

Structure: 4 Lecture Hours | 6 Hands-on Lab Hours

Key Theoretical Principles & Topics:

- Focal length characterization: Wide-angle (14–35mm), Normal (50mm), Telephoto (85mm+), and Macro lenses.
- Optics dynamics: Compression of space vs. wide-angle perspective distortion.
- Depth of Field (DoF) parameters: Aperture size, focal length, subject distance, and sensor circle of confusion.
- Focusing mechanics: Manual focus pull technique, autofocus tracking modes, and hyperfocal distance calculations.

Practical Lab Assignment: Depth-of-Field & Perspective Mapping: Photograph a single subject at varying focal lengths and aperture values to illustrate background compression and DoF variance.

Key Learning Outcome: Mastery over lens selection and focal plane isolation for visual emphasis.

MODULE 3: COMPOSITION, FRAMING & VISUAL GRAMMAR

Structure: 4 Lecture Hours | 6 Hands-on Lab Hours

Key Theoretical Principles & Topics:

- Core composition principles: Rule of thirds, golden ratio, dynamic symmetry, and leading lines.
- Frame boundaries: Frame within a frame, negative space, visual balance, and headroom/lead room.
- Camera perspective & psychology: High angle (subjugation), low angle (empowerment), Dutch angle (disorientation), and eye-level (intimacy).
- Visual scale and focal points: Directing viewer eye movement through contrast, color, and geometric weight.

Practical Lab Assignment: Geometric Visual Essay: Execute a 10-shot series adhering strictly to dedicated structural framing principles.

Key Learning Outcome: Proficiency in deliberately structuring visual frames to evoke target psychological responses.

MODULE 4: THE PHYSICS & ART OF LIGHTING

Structure: 4 Lecture Hours | 6 Hands-on Lab Hours

Key Theoretical Principles & Topics:

- Light properties: Hard vs. soft light quality, directional vs. ambient light, and specular highlights.
- The Inverse Square Law: Mathematical illumination drop-off and distance relationships.
- Color temperature: Kelvin scale (2000K–10000K), White Balance calibration, color rendering index (CRI/TLCI), and gel usage.
- Classic 3-Point Lighting: Key light placement, fill light ratios, backlight/rim positioning, and background separation.

Practical Lab Assignment: High-Key & Film-Noir Lighting Setup: Construct a standard studio 3-point lighting setup, then reconfigure it into a high-contrast low-key single-light portrait.

Key Learning Outcome: Ability to shape, measure, and balance ambient and artificial light sources.

PART 2: STILL PHOTOGRAPHY SPECIALIZATION

MODULE 5: STILL PHOTOGRAPHY GENRES & STUDIO TECHNIQUES

Structure: 4 Lecture Hours | 6 Hands-on Lab Hours

Key Theoretical Principles & Topics:

- Portraiture: Posing direction, studio strobes, speedlights, softboxes, beauty dishes, and grid modifiers.
- Landscape & Architecture: Long exposure techniques, Neutral Density (ND) filters, circular polarizers, and HDR exposure bracketing.
- Street & Documentary Photography: Ethics of candid photography, decisive moment capture, and ambient light reading.
- Commercial & Product Photography: Tabletop studio lighting, focus stacking, and surface reflection control.

Practical Lab Assignment: Dual-Genre Field Portfolio: Produce 3 studio portraits with flash modifiers and 3 long-exposure architectural photographs using ND filters.

Key Learning Outcome: Hands-on execution of field and studio capture techniques tailored to specific photography genres.

MODULE 6: RAW DIGITAL ASSET MANAGEMENT & IMAGE PROCESSING

Structure: 4 Lecture Hours | 6 Hands-on Lab Hours

Key Theoretical Principles & Topics:

- RAW image architecture: Uncompressed sensor data vs. processed JPEGs.

- Color science and tone curves: Luminance, RGB channels, highlight recovery, and shadow detail retention.
- Non-destructive workflow: Metadata management, batch editing, local adjustment masking, and sharpening/noise reduction.
- Color grading for still imagery: HSL (Hue, Saturation, Luminance) controls, split toning, and custom color profile creation.

Practical Lab Assignment: Digital Darkroom Masterclass: Process a set of underexposed and high-contrast RAW images in Adobe Lightroom / Capture One to achieve maximum dynamic range and color unity.

Key Learning Outcome: Advanced post-processing capability to convert RAW capture into polished professional imagery.

MODULE 7: PHOTO CURATION & PORTFOLIO ARCHITECTURE

Structure: 4 Lecture Hours | 6 Hands-on Lab Hours

Key Theoretical Principles & Topics:

- Visual storytelling: Sequencing, pacing, and thematic unity in photo essays.
- Curation methodology: Culling techniques, hero image selection, and visual rhythm.
- Digital & Print Output: Color management, ICC print profiles, resolution scaling (DPI/PPI), and paper stock selections.
- Building a online portfolio & client presentation standards.

Practical Lab Assignment: Portfolio Curation Project: Select, edit, and sequence a cohesive 10-image narrative photo essay complete with artist statement.

Key Learning Outcome: Completion of a curated, exhibit-ready digital photo portfolio.

PART 3: CINEMATOGRAPHY & MOTION PICTURE PRODUCTION

MODULE 8: MOTION MECHANICS & CINEMATIC EXPOSURE

Structure: 4 Lecture Hours | 6 Hands-on Lab Hours

Key Theoretical Principles & Topics:

- The 180-Degree Shutter Rule: Relation between frame rate and shutter speed for natural motion blur.
- Standard cinema frame rates: 24 fps (cinematic motion), 30 fps (broadcast), 60/120 fps (overcranked slow motion).
- Video exposure monitoring: Waveform monitors, False Color, Zebra patterns, and Vectorscopes (replacing traditional histograms).
- Neutral Density filters in motion capture: Maintaining shallow depth-of-field under bright exterior conditions.

Practical Lab Assignment: Shutter Angle & Motion Blur Experiment: Shoot identical movement at varying shutter speeds (1/24s, 1/50s, 1/500s) and analyze temporal motion cadences.

Key Learning Outcome: Mastery over cinema exposure tools and motion cadence parameters.

MODULE 9: CAMERA SHOT TYPES, MOVEMENT & SUPPORT SYSTEMS

Structure: 4 Lecture Hours | 6 Hands-on Lab Hours

Key Theoretical Principles & Topics:

- Standard cinema shot framing: Extreme Wide (EWS), Wide (WS), Medium (MS), Close-Up (CU), and Extreme Close-Up (ECU).
- Camera motion systems: Fluid-head tripods, shoulder rigs, 3-axis motorized gimbals, sliders, and dollies.
- Motivated camera movement: Panning, tilting, tracking, pushing-in, pulling-out, and the Vertigo effect (Dolly-Zoom).
- Operating mechanics: Maintaining steady focus, smooth pan/tilt balance, and physical camera operation.

Practical Lab Assignment: 5-Shot Motion Sequence: Plan and execute a continuous camera movement sequence combining dolly/slider tracking with precise focus pulling.

Key Learning Outcome: Fluency in executing smooth, narrative-driven camera movements.

MODULE 10: VISUAL CONTINUITY & CINEMATIC COVERAGE

Structure: 4 Lecture Hours | 6 Hands-on Lab Hours

Key Theoretical Principles & Topics:

- The 180-Degree Spatial Rule: Maintaining screen direction and eye-lines across intercut shots.
- Coverage strategy: Establishing/Master shots, medium coverage, over-the-shoulder (OTS) reverses, cutaways, and inserts.
- Blocking actors and camera: Coordinating character movement with camera motion within physical space.
- Shot transitions and editing rhythm: Cutting on action and temporal continuity.

Practical Lab Assignment: Dialogue Coverage Scene: Direct, block, and shoot a 2-person dramatic dialogue scene maintaining flawless 180-degree continuity.

Key Learning Outcome: Ability to shoot comprehensive multi-angle coverage that seamlessly cuts together in post-production.

MODULE 11: COLOR SCIENCE & POST-PRODUCTION GRADING FOR CINEMA

Structure: 4 Lecture Hours | 6 Hands-on Lab Hours

Key Theoretical Principles & Topics:

- Logarithmic picture profiles (S-Log3, C-Log, V-Log) vs. Rec.709 color space.
- Exposing for Log footage: ETTR (Exposing to the Right) and sensor dynamic range maximization.
- DaVinci Resolve Color Grading Workflow: Primary color wheels, node tree structure, power windows, and secondary qualifiers.

- Applying standard cinematic LUTs (Look-Up Tables), skin tone indicator lines, and multi-camera matching.

Practical Lab Assignment: Cinema Color Grading Lab: Normalize raw Log footage, balance shot-to-shot variations, and apply a stylized film look using DaVinci Resolve.

Key Learning Outcome: Proficiency in logarithmic workflow, footage normalization, and cinematic color grading.

MODULE 12: PRODUCTION WORKFLOW & CAPSTONE SHORT FILM

Structure: 4 Lecture Hours | 6 Hands-on Lab Hours

Key Theoretical Principles & Topics:

- Pre-production documentation: Script breakdown, visual shot lists, storyboards, and overhead lighting plots.
- On-set film crew hierarchy: Roles of the Director of Photography (DP), Camera Operator, 1st AC (Focus Puller), Gaffer, and Key Grip.
- Production execution: Managing set workflow, camera logs, and audio/video sync workflow.
- Post-production assembly: Rough cut editing, sound design, color pass, and final master export (ProRes/H.264).

Practical Lab Assignment: Final Capstone Film Project: Produce, light, shoot, and grade a 60–90 second narrative short film or commercial spec without dialogue, relying purely on visual storytelling.

Key Learning Outcome: Completion of a fully rendered cinematic capstone film ready for festival or commercial reel presentation.

2. Core Comparative Matrix: Photography vs. Cinematography

While both disciplines share core optical mechanics (aperture, focal length, light measurement), they diverge significantly in temporal execution, lighting equipment, exposure constraints, and post-production workflows.

Feature / Parameter	Still Photography	Cinematography (Motion Pictures)
Primary Narrative Goal	Freezing a single definitive moment to convey a story or aesthetic.	Continuous visual storytelling over time across sequential frames.
Temporal Constraint	Shutter speed chosen freely (1/8000s to multiple minutes).	Bound by 180° Shutter Rule (Shutter Speed = 1 / 2×Frame Rate).
Exposure Monitoring	Histogram, highlight blinkies, spot light meter.	Waveform monitor, False Color, Zebra exposure stripes, Vectorscope.
Lighting Gear	High-power strobes, speedlights, flash modifiers.	Continuous output lighting (LED panels, HMIs, Tungsten fresnels).

Feature / Parameter	Still Photography	Cinematography (Motion Pictures)
Focus Control	Single-point AF, continuous AF, static focus lock.	Manual focus pulling, wireless follow-focus, focal plane tracking.
Post-Processing	Uncompressed RAW image grading (Lightroom, Capture One).	Log gamma curves, 3D LUTs, primary/secondary grading (Resolve).
Audio Integration	None required.	Crucial sync audio integration, rhythm, and sound design.

3. Recommended Equipment & Software Kit

- **Camera Body:** Mirrorless or DSLR with full manual video/photo control (e.g., Sony A7 series, Canon R series, Fujifilm X series, or Blackmagic Pocket Cinema Camera).
- **Primary Lenses:** 35mm or 50mm Prime lens (f/1.8 or faster) + 24-70mm Zoom lens (f/2.8 or f/4 constant).
- **Camera Support:** Fluid-head video tripod, 3-axis motorized gimbal or shoulder rig, and a 24-inch slider.
- **Lighting Kit:** 2x Bi-color continuous LED point-source lights (100W+ with Bowens mount) + 1x Speedlight strobe.
- **Light Modifiers:** 36-inch Softbox with honeycomb grid, 5-in-1 reflector collapsible disk, neutral density (ND) filters (Variable ND 2-5 stops).
- **Post-Production Software:** Adobe Lightroom Classic / Capture One Pro (Photo editing) & DaVinci Resolve Studio (Video editing and color grading).

4. Assessment & Grading Structure

- **Weekly Practical Lab Assignments (Modules 1–11): 35% of Total Grade**
- **Midterm Photography Portfolio (10 Curated RAW Images): 25% of Total Grade**
- **Final Capstone Short Film Project (60-90s Motion Piece): 30% of Total Grade**
- **Peer Review, On-Set Safety & Class Participation: 10% of Total Grade**