COLOR GRADING COURSE · LEVEL 2 · INTERMEDIATE

Level 2 Workbook

Every "Do it" exercise from Lessons 2.1–2.12, plus the Level 2 capstone brief, delivery spec, checklist and rubric — with checkboxes and a completion sign-off.

Learner name _____

Start date _____

Resolve version _____

> **How to use this workbook.** Work through the lessons in order — each page mirrors that lesson's "Do it" section, with the scope or check the lesson asks you to confirm. Tick each box as you complete it. There's a notes strip on every page for what you saw on the scopes. Finish with the capstone (pages 14–15) and the sign-off (page 16).

CONTENTS

2.1 Color spaces & camera log

Separate gamut and transfer function, and identify any camera's log-and-gamut pair so you can normalize it correctly.

Do it

- [ ] Gather three clips shot on different cameras — or grab Blackmagic's free training media, which mixes ARRI and RED. One camera only? Shoot one log clip and one Rec.709 clip.
- [ ] For each clip, find its **log-and-gamut pair** from the camera's manual or the clip's metadata (right-click → Clip Attributes). Write the pair down before touching Resolve.
- [ ] Drop a **Color Space Transform** as your first node. Set the input to the pair you identified, output to **Rec.709 / Gamma 2.4**. Confirm the flat log resolves to a healthy image on the waveform.
- [ ] Deliberately break it: set the input to the *wrong* camera's space and watch the picture shift on the parade. Set it back.
- [ ] Change the CST output from Gamma 2.4 to Gamma 2.2 and note the small lift in the shadows.

> **You can move on when you can…** take any clip, name its gamut and its transfer function separately, identify the camera's log-and-gamut pair, and explain why entering it correctly in a CST makes normalization invisible — and why your display can still be the limiting factor.

NOTES — WHAT YOU SAW

2.2 Color management for real

Three real ways to color-manage a project — manual CST, RCM, and ACES — and a heuristic for choosing per project.

Do it

- [ ] Take a mixed-camera timeline. Do it the **manual** way first: input CST → one grade node → output CST. Push offset hard and confirm it rolls off, not clips.
- [ ] Now the **RCM** way: Project Settings → Color Management → DaVinci YRGB Color Managed, output Rec.709 / Gamma 2.4. Set each clip's Input Color Space to its real camera pair. Confirm both cameras land on a common baseline.
- [ ] Now **ACES**: duplicate the timeline, set color science to ACEScct, ODT to Rec.709. Set each shot's ACES input transform. Grab a still and wipe the ACES version against the RCM version.
- [ ] Write one sentence: which of the three you'd ship with for this project, and why.

> **You can move on when you can…** set up all three pipelines — a manual CST sandwich, RCM, and an ACES project — explain why the output conversion belongs last, and say in one sentence which you'd choose for a given project and why.

NOTES — WHAT YOU SAW

2.3 Shot matching

Match a mixed-camera scene invisibly with the RGB parade and a reference still — numbers, not eyeballs.

Do it

- [ ] Load a scene with at least three mismatched shots (different cameras or times of day). Normalize first if it's log.
- [ ] Pick your **hero shot** and balance it fully on a labeled node tree. Grab a still into the gallery and label it "reference."
- [ ] Move to shot two. **Wipe** the reference against it and set the scopes to RGB parade.
- [ ] On a fresh match node, drive shadows, then mids, then highlights, one channel at a time, until the parade shape matches the reference. Resize the reference if subject areas differ. Confirm skin on the vectorscope.
- [ ] **Copy** the match to shot three and fix only the difference.
- [ ] Try Resolve's **automated** match on a fourth shot, then finish it by hand — note how much it left on the table.
- [ ] Select all the shots, switch to the selected-clips split view (the scene cut-through), and play the scene through. Screenshot before/after.

> **You can move on when you can…** take a scene shot on two or more cameras, balance a hero shot, grab it as a reference still, and match every other shot to it on the parade — region by region, skin on the line — then play the run as a cut-through and have it read as one continuous scene.

NOTES — WHAT YOU SAW

2.4 Secondaries

Isolate skin, skies and products with power windows, qualifiers, the 3D keyer, tracking and keyframes.

Do it

- [ ] Take a shot from your matched scene (2.3). Add a secondary node right after the balance node.
- [ ] **Power window:** drop a circle on a face or product, convert to Bézier if the shape needs it, grade inside it, then soften the edge until the boundary is invisible.
- [ ] **Track it:** with the window in place, analyze forward. Scrub back and check it holds. Where it slips, add a keyframe and correct by hand.
- [ ] **Qualifier:** on a new node, click-drag across a distinct color. View in highlight black-and-white and clean the matte — denoise, clean black, clean white, a touch of blur — until there is no chatter.
- [ ] **3D keyer:** rebuild that same selection with the 3D keyer in soft mode and compare which gives the cleaner edge.
- [ ] **Outside node:** add one and grade everything except your selection.
- [ ] **Vignette:** an inverted, heavily softened circle window; darken the edges just until you cannot see it, then back off. Toggle the whole grade and screenshot before/after.

> **You can move on when you can…** isolate a subject two ways — a tracked, softened power window and a clean qualifier or 3D key with no chatter — grade only that region, flip to an outside node to grade the rest, and build a vignette no viewer would ever spot.

NOTES — WHAT YOU SAW

2.5 The curves family

Hue-vs-hue/sat/lum and lum-vs-sat — refining color with small, deliberate moves that never disturb your balance.

Do it

- [ ] On a balanced shot, add a serial node after your balance node and open the Curves palette. Switch to **Hue vs Hue**.
- [ ] Grab the Yellow preset to drop goalposts, then choke the left and right goalposts in. Double-click each goalpost's Hue Rotate field and type **0**.
- [ ] Grab the middle point and rotate the yellows about 2–3° warmer. Toggle the node — only the yellows should move.
- [ ] Try the eyedropper route instead on a green: widen the goalposts (the eyedropper runs narrow), pull the middle point toward pure green, watch the vectorscope.
- [ ] Switch to **Hue vs Sat**, then **Hue vs Lum**, on a shot with a face. Make one small move on each. If a hot spot flares, open **Sat vs Sat** to clean it.
- [ ] Open **Lum vs Sat** and pull saturation out of the brightest and darkest ends. Confirm the result reads cleaner.
- [ ] Optional: try the same move on the Color Warper grid instead.

> **You can move on when you can…** pick one hue in a balanced shot and rotate it a few degrees with hue-vs-hue — goalposts choked in and zeroed — without your neutrals or your balance shifting, and say which of hue-vs-sat, hue-vs-lum, sat-vs-sat or lum-vs-sat you'd reach for to fix a given problem.

NOTES — WHAT YOU SAW

2.6 Skin tone

Expose, balance and grade skin across every complexion using the vectorscope skin-tone line and a clean node.

Do it

- [ ] Open a shot with a face. On primaries, pick an anchor on the skin (the forehead) and expose it to a sensible range for *that* subject — confirm on the waveform.
- [ ] Turn on the vectorscope **skin-tone line**. Nudge temperature and tint until skin sits on or just beside the line; watch the subject separate from the background.
- [ ] Add a new node right after primaries, labeled **Skin**. Build a qualifier: narrow hue width, sat low/high, post-filter 0.1, denoise, clean white/black. (8-bit footage: use HSL curves instead.)
- [ ] Make one small, intentional move — even the hue, or add richness with Color Slice's density and saturation sliders.
- [ ] For flawless commercial skin: add a **color compressor**, target hue around 20°, bring compress-hue in partway. Back off until it still looks alive.
- [ ] Repeat the whole pass on a subject with a very different complexion. Confirm each reads natural in its own range.
- [ ] Toggle the grade off/on, check the before/after, and screenshot it.

> **You can move on when you can…** take a shot of any complexion and get its skin exposed to a sensible range, balanced onto the vectorscope skin-tone line, and isolated on a clean node — then explain why the same numbers won't fit the next subject, and reach for Color Slice or the color compressor when a client wants uniform commercial skin.

NOTES — WHAT YOU SAW

2.7 Grades at scale

Group grades, shared nodes, stills/PowerGrades and CDLs — grade a whole timeline as a system.

Do it

- [ ] Take a multi-shot timeline with at least two "cameras" or repeated setups. Group the A-camera shots and the B-camera shots.
- [ ] On the A group's **pre-clip** tab, do a shared primary correction. Confirm it lands on every A clip.
- [ ] On the same group's **post-clip** tab, add a simple creative look. Notice it sits over the pre-clip correction and any per-clip work.
- [ ] Build a secondary on one clip, make it a **shared node**, and share it to another clip. Change it once; watch both update.
- [ ] Grab your favorite grade as a **PowerGrade**, then Apply Grade it to a fresh clip.
- [ ] Right-click a graded clip → **Generate CDL** (or export CDL) and open the file to see how small it is.

> **You can move on when you can…** grade a whole timeline as a system — group clips and choose pre-clip vs post-clip with intent, share a node across shots, reuse a grade as a PowerGrade, and explain why a CDL is portable — instead of hand-grading every clip.

NOTES — WHAT YOU SAW

2.8 Conform & roundtrip

Take an editor's timeline into Resolve, conform against camera originals, verify, and roundtrip back.

Do it

- [ ] Get an interchange file (free EDL assets, or export an XML from a short Premiere/FCP cut of your own).
- [ ] In Resolve, make media / sequences / offline bins. Import the camera media, then File → Import → Timeline, pointing it at the camera folder to conform.
- [ ] Export a flattened QuickTime of the same cut and **Add as Offline Reference Clip**; link it to your sequence and set reference mode to Offline.
- [ ] Drop a CST on the first node so the footage reads correctly, then sync-check first/middle/last frame of every shot with Ctrl-W. Fix any flip, reframe or timecode mismatch you find.
- [ ] Grade one shot, then **media-manage** the timeline (copy and trim used media, 48-frame handles) and note how the handles give editorial slack.

> **You can move on when you can…** import an XML/AAF/EDL, conform it to the camera originals, verify every shot against an offline reference with a wipe, fix the usual discrepancies, and media-manage a roundtrip-ready deliverable back to the edit.

NOTES — WHAT YOU SAW

2.9 Look development I — analysis

Deconstruct any reference grade into contrast shape, palette, density and split-toning.

Do it

- [ ] Pick one reference frame you love. Bring it into Resolve and open your four scopes — waveform, parade, vectorscope, histogram.
- [ ] **Read contrast.** On the waveform: are the blacks deep or lifted? Are the whites full or held down? Write it in one sentence.
- [ ] **Read the palette.** On the parade and vectorscope: which hues dominate, and how do they relate?
- [ ] **Read density.** Do rich colors carry weight and sit a little darker, or is everything pale and thin?
- [ ] **Read split-toning.** Compare channels at the bottom of the parade vs the top. Is one hue in the shadows and another in the highlights?
- [ ] Rebuild a rough version: a contrast curve preserving middle gray, a split-tone, and a subtractive-saturation pass (node in HSV, isolate saturation, lift low/mid, hold the top flat).
- [ ] Toggle your rebuild against the reference.

> **You can move on when you can…** take any reference grade you admire and describe it out loud in four parts — contrast shape, palette, density, split-toning — and rough out its character on a node tree, including a subtractive-saturation curve, without just copying a preset.

NOTES — WHAT YOU SAW

2.10 Look development II — film emulation

Build a film look with understanding — negative-to-print, halation and grain, applied the right way.

Do it

- [ ] Take a **normalized, exposed** log shot (a color space transform into your working space — don't just crank saturation).
- [ ] On a node *before* the look, balance the shot: warm or cool it with offset, nudge saturation, settle the highlights.
- [ ] On a new node, apply a **PFE LUT** — Resolve ships a Kodak 2383. Place this node after your normalize/balance, before any output transform.
- [ ] **Audition it across shots.** Drop the same look on three or four clips and find the one where it breaks.
- [ ] If it's too contrasty, **tame it** — lower that node's key output/gain, or feed it a gentler contrast curve.
- [ ] Add a **halation** node: qualify the brightest highlights, blur that selection, tint it red-orange, add it back softly.
- [ ] Add **grain** as the last step, at a strength that reads as texture, not noise.
- [ ] Toggle the whole chain off and on. Note how much of the "film" feeling came from halation and grain, not the LUT.

> **You can move on when you can…** explain a film look as a chain — negative-to-print base, then halation, then grain — and apply a print-film-emulation LUT the right way: normalized and balanced first, placed correctly in the tree, auditioned across shots, with halation and grain added separately.

NOTES — WHAT YOU SAW

2.11 Repair & refinement

Denoise, sharpen and fix mixed lighting and exposure problems the professional way, verified on scopes.

Do it

- [ ] Find a genuinely noisy clip — low light, or one you have to lift hard. Normalize with a CST first.
- [ ] Open the Scopes, set parade and vectorscope, and turn **off** the low-pass filter so noise shows.
- [ ] Add a **noise reduction** node. If the shot needs a big exposure lift, put NR *after* the lift; otherwise put it right after normalize.
- [ ] **Temporal first:** frames at 2, estimation on Better, motion range to match the shot. Unlink luma/chroma, raise luma threshold to the point it stops helping, back off.
- [ ] **Spatial next:** Better mode, small radius, dial threshold to roughly half-again your temporal amount. Use A/B highlight, watch skin at 1:1 — stop before it goes plasticky.
- [ ] **Go local:** on a shot where only part of the frame is noisy, add a luminance qualifier or window so NR hits only the problem area and leaves faces alone.
- [ ] **Refine:** add a little positive mid-detail or a grain node to restore texture.
- [ ] Toggle the whole repair off and on. Keep it only if it clearly improves the image.

> **You can move on when you can…** take a noisy, imperfect clip and repair it in order — denoise with temporal and spatial NR balanced and verified on scopes, place the NR node where the cause of the noise dictates, isolate local problems with a secondary so faces stay clean, and restore texture with mid-detail or grain — then toggle it off and on and honestly say it looks better, not just different.

NOTES — WHAT YOU SAW

2.12 The honest suite

Calibrate what you already own, understand I/O boxes and panels, and buy nothing prematurely.

Do it

- [ ] Identify your pipeline honestly. Are you viewing on your computer display, or through an I/O box to a dedicated monitor?
- [ ] Note your deliverable: web/SDR means Rec.709, D65. Write down the gamma your target chain expects.
- [ ] Judge your room: dim or bright? Dim → target gamma **2.4** (BT.1886). Bright → **2.2**. Match this to the deliverable, don't guess.
- [ ] If you own a probe, calibrate with DisplayCAL: white point D65, luminance around 100 nits, the gamma you chose above.
- [ ] In Resolve, load the resulting correction under Workspace → Monitor Calibration (on the Color page).
- [ ] Be honest about limits: after calibrating, note where your panel still falls short (gamut, contrast, viewing angle) and lean on the scopes for anything that must be exactly right.
- [ ] No probe yet? That's fine — tame your screen's worst habits, know your deliverable's gamma, and trust the scopes.

> **You can move on when you can…** describe your own viewing pipeline honestly, name the gamma your deliverable targets and pick 2.4 or 2.2 for a reason (deliverable standard plus room brightness, not preference), explain what calibration can and cannot fix on a consumer panel, and say plainly what an I/O box and a control surface each do — and don't do — for your image.

NOTES — WHAT YOU SAW

★ Level 2 capstone — Match & finish a short

Gate: match a scene and finish a short film color-managed. Conform, balance, match, look, and deliver to a written spec.

The brief

You're handed a short film — a few minutes, cut in an NLE, shot on at least two different cameras (mixed log formats) with some tricky lighting. Take it from an editor's handoff to a finished, delivered master, color-managed throughout. No grading by eye on an uncalibrated screen; every decision verified on scopes. Work in this order:

- ☐ **Conform** the editor's timeline — import the XML/AAF/EDL, relink to the camera originals, sync-check every shot against the offline reference with a wipe (2.8).
- ☐ **Color-manage** the project — RCM or ACES so every camera maps to a common base; tag each clip's real input color space (2.1, 2.2).
- ☐ **Balance** every shot to a correct, neutral baseline — scope-verified (1.6).
- ☐ **Match** the mixed cameras invisibly on the parade (2.3).
- ☐ **Build the grade at scale** — groups, shared nodes, stills (2.7); secondaries for skin/skies/products (2.4), curves for targeted hue work (2.5), skin kept honest (2.6).
- ☐ **Develop a look** — analyze a reference and apply it consistently across the film (2.9, 2.10).
- ☐ **Deliver** to the spec below, and prepare a roundtrip back to the edit (1.7, 2.8).

NOTES — WHICH PIPELINE, WHICH LOOK, WHAT YOU'D CHANGE

★ Level 2 capstone — delivery spec & checklist

Treat this as a client's delivery document. The master is not "done" until it meets every line.

The delivery spec

Master color space: Rec.709 / Gamma 2.4, D65 white point (SDR).

Container / codec: Apple ProRes 422 HQ (QuickTime .mov).

Resolution & frame rate: UHD 3840×2160 (or 1920×1080 if that's the source), progressive, source frame rate — do not resample.

Levels: Video levels (legal range), broadcast-safe on; nothing clipping the ceiling or crushing the floor except intentional speculars/practicals.

Deliverables: (1) one flattened graded master of the full short; (2) the graded timeline media-managed with 48-frame handles; (3) a still or PowerGrade of the hero-shot grade, plus a CDL of the primary balance.

Naming: ShortTitle_Grade_Rec709_v01.mov

Scope-verified checklist

- ☐ **Conformed & synced** — every shot matches the offline reference on a wipe; no flips, reframes or timecode slips left unfixed.
- ☐ **Color-managed** — one consistent pipeline (RCM or ACES); each clip's input color space is correct; no shot hand-normalized by eye.
- ☐ **Balanced** — exposure consistent across the film, neutral where it should be neutral, no unwanted casts on the parade.
- ☐ **Matched** — cuts between different cameras are invisible; skin lands on the vectorscope's skin-tone line throughout.
- ☐ **Graded at scale** — a group/look structure, not forty independent clips; you can explain every node.
- ☐ **Look is consistent** — one intentional look reads across the whole short.
- ☐ **Meets the delivery spec** — Rec.709/2.4, ProRes 422 HQ, correct resolution/frame rate, legal levels, handles and portable-look deliverables all present.

Self-assessment rubric

GRADE	WHAT IT LOOKS LIKE
Not yet	Cameras don't match, or the look drifts scene to scene, or a shot was hand-graded outside the color-managed pipeline, or the master misses the spec. Any single failed checklist box is a Not yet.
Passing	Conformed, color-managed, balanced, invisibly matched across cameras, one consistent intentional look, and the master meets every line of the delivery spec, scope-verified.
Strong	All of the above, plus the grade is efficient and readable (clean groups, shared nodes, labelled trees), the look shows real analysis, and another colorist could pick up the project instantly.

You pass Level 2 — and unlock Level 3 — at Passing or above. Then sit the free Blackmagic Certified User (Colorist) exam to make it official.

✓ Completion sign-off

Level 2 · Intermediate — Color Grading Course

Lesson exercises completed

- ☐ 2.1 · Color spaces & camera log
- ☐ 2.2 · Color management for real
- ☐ 2.3 · Shot matching
- ☐ 2.4 · Secondaries
- ☐ 2.5 · The curves family
- ☐ 2.6 · Skin tone
- ☐ 2.7 · Grades at scale
- ☐ 2.8 · Conform & roundtrip
- ☐ 2.9 · Look development I
- ☐ 2.10 · Look development II
- ☐ 2.11 · Repair & refinement
- ☐ 2.12 · The honest suite
- ☐ Level 2 capstone — Match & finish a short

Capstone self-assessment grade (from page 14) — check one.

☐ Not yet ☐ Passing ☐ Strong

I confirm I have completed every Level 2 lesson exercise and the Level 2 capstone described in this workbook, verified against the scopes as specified in each lesson.

Learner signature _____ Date _____

Print name _____ Reviewed by (optional — mentor / instructor) _____

Once signed off, you're ready for **Level 3 — Expert**. Keep this page — it's your record that Level 2 is genuinely done, not just watched.