

SØRAV MUSIC ACADEMY

LEVEL 2 · MIXING

GOLD STANDARD WORKBOOK

A beginner-first mixing course for Logic Pro. Learn to balance, shape, control and place sources through theory, visual models, guided listening, practical work and decision-making.

How to use this workbook

For each lesson, identify the goal, listen to the source, make one controlled change, compare at similar loudness, and decide whether the song improved. Keep notes of what you heard, not just which setting you used.

Golden rule

Frequency numbers, compressor times, pan positions, reverb decay and delay divisions are examples—not compulsory settings. Instruments, singers, arrangements and recordings differ. Listen first, then decide.

What Is Mixing?

Learning target: Understand mixing as a set of musical relationships—not a contest to use the most plugins.

Core idea

Mixing combines recorded or generated parts into a coherent musical picture. You make decisions about relative level, frequency balance, dynamics, stereo position, depth, timing, automation and effects. The aim is to support the song's emotion and hierarchy: listeners should understand what matters at each moment.

Listen before processing

Before opening plugins, listen to the whole arrangement. Identify the lead, rhythmic anchors, low-frequency foundation, harmony, textures and transitions. Ask what the song needs the listener to notice. If two parts compete for the same role, changing the arrangement or level may solve the problem more naturally than processing.

Controls and decisions

Use a repeatable order: organise tracks; check edits and routing; set sensible region levels; create a static fader balance; pan; use EQ only to solve tonal or masking issues; use compression when dynamics need control; add reverb/delay for depth; automate musical changes; check translation and export. This is a flexible workflow, not a law.

Workflow in context

A reference track helps calibrate broad tonal balance, vocal/instrument hierarchy, low end, width and density. Choose a stylistically relevant reference and match perceived loudness before comparing. Do not copy its settings: your arrangement, performance and recording are different.

Practical perspective

Mix in context. A soloed vocal may sound thin but fit the arrangement; a bright hi-hat may sound exciting alone but harsh in the chorus. Solo to diagnose, then return to the full mix to decide.

Logic Pro practical

Create a Logic Pro project with at least four parts: lead/vocal, bass, drums/percussion and harmony. Name tracks, colour or group them if helpful, and listen without plugins. Write the intended hierarchy. Set only faders and pan, then save a version named `Static_Balance`.

Guided listening

Listen to the chorus and verse. Write which element leads, which supports, and which is masking another. Compare a reference at similar perceived loudness and list three differences without assuming the reference is automatically correct.

Common mistakes

Adding plugins before establishing balance

- judging only in solo
- comparing references louder
- trying to make every track equally prominent.

Completion task

A mix is a set of relationships. Always make one change to solve one audible problem, compare at matched loudness, and keep it only if the song improves.

Decision log

What was the audible goal? What did you change? Did you compare at similar loudness? What changed in the full mix? Why did you keep or undo the change?

Volume, Balance and Gain Staging

Learning target: Build a stable static mix, understand signal level through the path, and avoid clipping or driving processors unintentionally.

Core idea

Balance is the relationship between tracks. Start with the musical priorities, not a fixed fader recipe. A fader move of a few decibels can change the perceived hierarchy dramatically. Clip or region gain adjusts the level before the channel strip in many workflows; the channel fader changes the level at its position in the path.

Listen before processing

Digital meters commonly use dBFS, where 0 dBFS is full scale. A signal approaching or exceeding full scale can clip at that point. There is no universal target peak for every track. Leave sensible headroom, avoid accidental clipping, and make sure the signal level suits the processor that follows.

Controls and decisions

Gain staging is not simply lowering everything. It means choosing levels so each stage behaves predictably: source/region, plugin input and output, bus, and stereo output. A compressor reacts to the input level relative to its threshold; saturation plugins may change character with input level. Use output gain to level-match comparisons.

Workflow in context

A loudness-matched A/B is essential. If a plugin makes the output louder, the processed version may seem better even if it has not improved clarity. Compare bypassed and active states at similar perceived loudness and keep enough output headroom.

Logic Pro practical

Create a static balance in Logic Pro using region gain or clip gain only when needed, then faders. Watch the track and stereo-output meters. Insert a compressor on a duplicate and compare how different input levels affect gain reduction. Avoid red/overload indicators and document where level changes occur.

Guided listening

Begin with all tracks low or down, then bring up the most important element and build around it. Compare two balance versions at similar loudness. Notice whether the bass, vocal or kick controls the listener's attention.

Common mistakes

Chasing a magic peak number

- using the master fader to hide clipping earlier in the path
- comparing louder processing against quieter bypass
- confusing track fader position with actual signal level.

Completion task

Gain staging supports predictable processing and clean routing. Meter readings help locate problems, but balance is ultimately judged in context.

Decision log

What was the audible goal? What did you change? Did you compare at similar loudness? What changed in the full mix? Why did you keep or undo the change?

Panning and Stereo Placement

Learning target: Use left-right placement intentionally while preserving a stable centre and checking mono compatibility.

Core idea

Panning places a source within the stereo field. A centre-panned source is typically sent to both left and right channels; hard-left and hard-right positions place it at the extremes. Panning can create separation without changing tone, but it does not automatically make a mix wide or clear.

Listen before processing

Build the centre around elements that carry the song's focus—often lead vocal, kick and bass, though genre and arrangement matter. Supporting parts can be placed to create width and reduce competition. Do not pan every element simply to a different position; arrangement and level still matter.

Controls and decisions

Stereo width can come from panning, stereo recordings, modulation, delays and reverberation. Wide effects may sound impressive in headphones yet weaken or change in mono. Mono checking reveals cancellation or masking that can be less obvious in stereo.

Workflow in context

Pan law affects the perceived level of a signal as it moves across the stereo field. DAWs may compensate centre-panned signals according to a selected pan law. When comparing panning, account for level changes rather than assuming every position has identical loudness.

Logic Pro practical

In Logic Pro, keep the lead and low-frequency anchor centred as a starting point, then pan complementary guitars, keys or percussion to support the arrangement. Listen on speakers or headphones, then check mono using a utility or stereo-output control if available. Adjust if important parts disappear or change dramatically.

Guided listening

Listen to the chorus in stereo, then mono. Identify which parts become harder to hear. Move one competing support part at a time and compare.

Common mistakes

Panning only to make a visually symmetrical mix

- placing all important parts at the edges
- assuming stereo means better
- ignoring mono compatibility.

Completion task

Panning is an arrangement decision in the stereo field. Make placements that support the song, and always check the result in context.

Decision log

What was the audible goal? What did you change? Did you compare at similar loudness? What changed in the full mix? Why did you keep or undo the change?

EQ Fundamentals

Learning target: Understand frequency bands, filter types and the main controls of a parametric EQ before making tonal changes.

Core idea

Equalisation changes the level of selected frequency ranges. A parametric EQ typically offers frequency, gain and bandwidth/Q for bell bands, plus filter types such as high-pass, low-pass, shelves and sometimes notch filters. Frequency chooses where the action occurs; gain chooses cut or boost; Q/bandwidth determines how broad or narrow a bell-shaped action is.

Listen before processing

A high-pass filter attenuates frequencies below its cutoff region and lets higher frequencies pass; it is often used to reduce unwanted rumble, but can thin a source if set too high. A low-pass filter attenuates frequencies above its cutoff region. A low shelf changes a broad low-frequency region; a high shelf changes a broad high-frequency region.

Controls and decisions

A bell band boosts or cuts around a centre frequency. Wider Q affects a broader range; narrower Q affects a smaller range. A narrow cut can help investigate a specific resonance, but extremely narrow boosts often sound unnatural. Filter slopes describe how strongly attenuation increases beyond the filter region; exact response depends on the EQ design.

Workflow in context

Cutting can create space, while boosting can add emphasis, but neither is automatically superior. EQ choices depend on the source, microphone, arrangement, key, register and desired role. Numbers are starting points for exploration, not rules. If a vocal needs presence in one song, the same boost may make another vocal harsh.

Logic Pro practical

In Logic Pro, insert Channel EQ on a duplicate or saved version. Identify the high-pass filter, low-pass filter, bell band, shelf, frequency, gain and Q controls. Make one broad, small change, level-match, bypass and compare in the full mix. Use a spectrum analyser only to help locate questions; listen to decide.

Guided listening

Sweep a bell band gently to learn how different areas sound, then undo the sweep. Try a high-pass filter on a source with audible low rumble and lower the cutoff until the sound begins to lose useful body; back off from that point.

Common mistakes

Boosting because a graph looks flat

- high-passing every track at the same frequency
- making large cuts without checking the full mix
- confusing Q with gain
- treating frequency charts as fixed prescriptions.

Completion task

EQ is a tone-shaping tool, not a recipe. Hear the problem first, choose the smallest useful move, level-match, and re-check the complete arrangement.

Decision log

What was the audible goal? What did you change? Did you compare at similar loudness? What changed in the full mix? Why did you keep or undo the change?

Removing Mud and Harshness

Learning target: Diagnose masking and tonal buildup without applying fixed frequency cuts to every instrument.

Core idea

“Mud” is a listening description for a cloudy or poorly separated low-mid balance; “harshness” often describes an uncomfortable upper-mid or high-frequency emphasis. Neither label points to one universal frequency. Source, arrangement, microphone, register, performance and playback system all influence where the problem appears.

Listen before processing

Start by locating the symptom. Is the mix cloudy only when several parts play together? Does the vocal become harsh only in the chorus? Is the bass note itself boomy, or is the kick and bass overlapping? The cause may be arrangement, level, performance or room capture—not just EQ.

Controls and decisions

Use EQ to make a targeted, modest change. Compare the track in context before and after. If you temporarily boost to find a resonance, use a restrained level and narrow band, identify the area, then return to a sensible cut or remove the band. Avoid extreme sweeps that cause ear fatigue or trick you into choosing a setting because it is dramatic.

Workflow in context

Frequency ranges are only investigation zones. Low-mid buildup may occur somewhere around 200–500 Hz in a particular mix, and harshness may appear around upper mids, but those are not compulsory cuts. A source may need warmth in the same range that another source needs reduction. Do not remove the character from every track.

Logic Pro practical

In Logic Pro, duplicate or save a version of the mix. Listen to the full section and note the moment the problem occurs. Solo only to investigate; make a small Channel EQ change; return to full mix; level-match; check the verse and chorus. If the change solves one section but damages another, try automation or a different solution.

Guided listening

Compare the vocal alone and with the full arrangement. Identify whether the discomfort is on the vocal itself or created by overlapping instruments. Try lowering one competing instrument before reaching for EQ.

Common mistakes

Cutting 300 Hz from every track

- assuming “mud” always means one frequency
- over-cutting body from vocals or guitars
- boosting highs to create clarity when masking or level is the real issue.

Completion task

Use frequency numbers as examples to investigate, not orders to obey. Every voice and instrument differs. Listen first, then decide.

Decision log

What was the audible goal? What did you change? Did you compare at similar loudness? What changed in the full mix? Why did you keep or undo the change?

Compression Fundamentals

Learning target: Understand why compression exists and how threshold, ratio, knee, attack, release and makeup gain interact.

Core idea

A compressor reduces gain when a signal crosses a threshold according to its ratio and detector behaviour. It can control uneven dynamics, shape transients, help a vocal remain intelligible, or add density and sustain. It does not automatically improve every track, and too much can reduce punch or expression.

Listen before processing

Threshold is the level at which compression begins. Ratio describes how much the input above threshold is reduced at the output. For example, at a 4:1 ratio, an input 4 dB above threshold produces about 1 dB above threshold at the output in an ideal static model. Real compressors may have soft knees, time constants and program-dependent behaviour.

Controls and decisions

Attack controls how quickly gain reduction develops after the detector responds; release controls how it recovers. A slower attack may let more of a transient through, while a faster attack may reduce the initial hit. A release that is too fast can sound rough or pump; one that is too slow may suppress following notes. Knee changes how gradually compression begins around threshold.

Workflow in context

Makeup gain or output gain compensates for level lost during compression; it is not proof the compressor improved the sound. Bypass and match perceived loudness before deciding. Listen for consistency, transient shape, pumping, breathing, loss of impact and vocal expression.

Logic Pro practical

In Logic Pro, insert Compressor on a duplicate track. Start with a moderate ratio, lower threshold until gain reduction is clearly visible, and compare with bypass at matched loudness. Change one control at a time. Try on a vocal or drum loop, then repeat on another source to hear why settings do not transfer universally.

Guided listening

Compare a vocal phrase with a wide dynamic range before and after gentle compression. Listen for more consistent words, but also check whether breaths, consonants or emotional peaks become exaggerated or flattened.

Common mistakes

Using compression because a track “must” have it

- setting threshold without watching or hearing gain reduction
- using makeup gain to prefer the louder version
- compressing every source the same way.

Completion task

Compression is a dynamic decision. Set it to solve a real level or envelope problem, then level-match and judge the musical result.

Decision log

What was the audible goal? What did you change? Did you compare at similar loudness? What changed in the full mix? Why did you keep or undo the change?

Attack, Release and Gain Reduction

Learning target: Hear how compressor timing changes transients and groove, and learn to read gain reduction without chasing a target number.

Core idea

Attack is the time it takes for gain reduction to develop after the detector signal crosses the threshold; release is the time it takes for gain reduction to recover as the signal falls. Exact behaviour depends on compressor design, detector, knee, programme material and controls such as lookahead or auto release.

Listen before processing

A slower attack often allows more of the initial transient to pass before compression builds, which can preserve punch. A faster attack can reduce peaks and soften attacks, but too-fast settings may make drums dull or a vocal lose articulation. These are tendencies, not fixed outcomes; source and tempo matter.

Controls and decisions

Release affects how the compressor recovers between hits or syllables. A release that is too fast can cause audible distortion or gain modulation; a very slow release may keep gain reduction active across the next hit and reduce impact. A musical release often recovers in a way that supports the rhythm, but automatic or program-dependent releases can work well too.

Workflow in context

Gain reduction shows how much the compressor is attenuating the signal at a given moment. It is not a quality score and there is no universal target. Listen to whether the envelope, consistency and musical movement improve. Compare the same phrase or bar at matched loudness.

Logic Pro practical

Use Logic Pro Compressor on a drum loop or vocal. Keep threshold and ratio stable, then compare a faster and slower attack. Next compare release values. Observe gain reduction while listening to transients, groove and pumping. Reset to the least intrusive setting that solves the goal.

Guided listening

On drums, listen to the initial hit and sustain. On vocals, listen to consonants, word endings and breaths. Try one parameter change at a time and write the audible difference.

Common mistakes

Copying a tutorial's attack/release numbers regardless of tempo or source

- treating a gain-reduction meter as a target
- setting release so fast that the sound distorts
- forgetting to level-match.

Completion task

Attack and release shape the movement of the sound. Adjust them by listening to the transient and recovery, not by chasing a magic number.

Decision log

What was the audible goal? What did you change? Did you compare at similar loudness? What changed in the full mix? Why did you keep or undo the change?

Reverb and Depth

Learning target: Use reverb to create a sense of environment and distance while preserving clarity and intelligibility.

Core idea

Reverb is the dense pattern of reflections that follows sound in an acoustic space or is generated by a processor. Early reflections provide cues about the room and distance; the later decay creates a sense of space. Reverb can place sources in a shared environment, soften edges and support emotion, but excessive decay or level can blur timing and words.

Listen before processing

Common controls include room/space type, decay or time, pre-delay, damping or high-frequency decay, early-reflection level, width, and wet/dry balance. Names and available controls vary by plugin. Decay time describes how long the reverberant energy takes to fade; it should relate to tempo, arrangement density and the source's role.

Controls and decisions

Pre-delay is the time between the direct sound and the onset of the reverb tail. More pre-delay can keep the initial consonant or transient clear while the tail creates space. Damping changes how high frequencies decay; a darker tail can sit behind a vocal without competing as much. These are creative choices, not universal settings.

Workflow in context

A send to an aux reverb lets multiple tracks share one space and gives independent control of send amount. When using a send, the reverb return is commonly set fully wet; otherwise you may duplicate dry signal. An insert reverb can be appropriate for a special effect or when a single source needs its own space.

Logic Pro practical

In Logic Pro, create an aux send to a reverb bus if appropriate. Start with a modest send level. Adjust decay, pre-delay and damping while listening to the full mix. Mute the return to hear what it contributes. Check phrase endings and gaps so the tail does not obscure the next line.

Guided listening

Compare a dry vocal, a short room, and a longer plate or hall. Keep the dry level consistent and listen to whether the vocal feels closer or farther away, not just whether the effect is obvious.

Common mistakes

Using too much reverb to make a weak recording feel expensive

- forgetting to control low-frequency buildup in the return
- setting wet/dry incorrectly on an aux
- choosing decay without considering tempo and phrase gaps.

Completion task

Reverb is a depth and environment tool. A useful reverb supports the source and the song; it does not need to be obvious to be effective.

Decision log

What was the audible goal? What did you change? Did you compare at similar loudness? What changed in the full mix? Why did you keep or undo the change?

Delay and Space

Learning target: Use delay time, feedback, filtering and tempo sync to add rhythmic repeats or depth without cluttering the arrangement.

Core idea

Delay repeats a signal after a time interval. Short delays can thicken or create a sense of space; longer repeats can create rhythmic motifs, fills and call-and-response. Delay is distinct from reverb: repeats are more discrete, while reverb creates a dense field of reflections, though effects can be combined.

Listen before processing

Delay time may be set in milliseconds or synced to musical divisions such as quarter notes, eighth notes or dotted values. Tempo sync helps repeats align with the song's pulse. A time that sounds good at one tempo may clash at another. Ping-pong modes alternate repeats across stereo channels, but check mono compatibility.

Controls and decisions

Feedback controls how much delayed signal is fed back into the delay, affecting the number and persistence of repeats. Too much feedback can build up and mask later phrases. Filtering or damping the repeats can help them sit behind the dry source. Wet/dry balance controls the relative direct and delayed signal; on an aux return, the effect is commonly fully wet.

Workflow in context

Use automation or sends to increase delay only at phrase endings or selected words. This keeps the main performance clear while allowing the effect to become a musical event. Ducking the delay return under the dry vocal can also preserve intelligibility if the workflow supports it.

Logic Pro practical

In Logic Pro, create a delay send or insert on a duplicate. Try tempo-synced eighth-note and quarter-note repeats. Lower feedback and filter the repeats. Automate a send on one phrase ending, then compare with the effect muted. Check the stereo and mono result.

Guided listening

Listen for the delay's rhythmic relationship to the beat. Try the same phrase with reverb and delay separately, then together at restrained levels. Identify which effect helps the phrase without covering the next line.

Common mistakes

Using feedback too high

- setting delay time without reference to tempo
- making every word repeat
- allowing bright repeats to fight the dry vocal
- forgetting the effect return level.

Completion task

Delay should serve rhythm and phrasing. Use it intentionally, filter and automate where needed, and listen for clutter as well as excitement.

Decision log

What was the audible goal? What did you change? Did you compare at similar loudness? What changed in the full mix? Why did you keep or undo the change?

Your First Complete Mix

Learning target: Apply a repeatable start-to-finish workflow and deliver a balanced, checked Logic Pro mix with documented decisions.

Core idea

A complete mix begins before plugins. Confirm the session opens correctly, regions are edited, track names are clear, routing is intentional and the reference file is level-matched. Identify the musical focus and any obvious recording or arrangement issues before processing.

Listen before processing

Build a static balance first. Set track levels, then pan to create a useful hierarchy. Use EQ to address tonal imbalance or masking, compression only where dynamics need control, and reverb/delay to establish depth. Automate important phrases and transitions. Make changes in small steps and avoid stacking processors without a clear purpose.

Controls and decisions

Check the mix in context across the whole song, not only the loudest chorus. Compare to a reference at similar perceived loudness. Listen at low level, in mono when possible, and on another playback system if available. Check the intro, transitions, phrase endings and final tail.

Workflow in context

Before export, check the stereo output for clipping, confirm the start and end points, verify sample rate/bit depth and file format for the delivery, and listen to the exported file from beginning to end. Save a versioned project and keep the source assets organised. Mastering is a separate stage; this lesson focuses on mixing and clean delivery of the mix.

Logic Pro practical

In Logic Pro, create groups or track stacks if helpful, name all tracks, and save a working version. Build a fader-only balance; add panning; use EQ or compression only for a stated problem; add one shared reverb and/or delay; automate one meaningful change; export a stereo mix and listen to the exported file.

Guided listening

A/B your mix against a level-matched reference. Write down three differences, choose one that matters to the song, test a change and document whether it helped. Check verse, chorus and ending before calling the mix finished.

Common mistakes

Mixing only the chorus

- processing before balance
- overusing stereo effects
- comparing a louder reference
- failing to audition the exported file
- confusing a mix export with a mastered release.

Completion task

A finished mix is a set of intentional choices that support the song. Document the goal, test one change at a time, and verify the actual export.

Decision log

What was the audible goal? What did you change? Did you compare at similar loudness? What changed in the full mix? Why did you keep or undo the change?

Level 2 final readiness checklist

- I can describe the musical hierarchy before adding plugins.
- I can establish a fader balance and manage levels without clipping.
- I can pan sources intentionally and check mono compatibility.
- I can identify high-pass, low-pass, bell and shelf EQ controls.
- I can describe a tonal symptom before choosing an EQ move.
- I can explain threshold, ratio, attack, release and gain reduction.
- I can compare compression at matched loudness.
- I can use reverb and delay to support depth and phrasing.
- I can automate a change for a musical reason.
- I can check the whole mix, reference, mono playback and exported file.

Self-assessment rubric

Skill	Developing	Confident
Balance	Faders adjusted randomly	Hierarchy explained and intentional
Processing	Preset/settings led	Each move solves a stated issue
Listening	Louder version preferred	A/B at matched loudness
Delivery	Export assumed correct	Exported file checked end-to-end