

UCLA-ALIGNED COURSE FIELD NOTES

CUSTOM NOTES

Music Theory for Guitar

A complete fretboard-first course in rhythm, harmony, voice leading, improvisation, arranging, and ear training

How these notes are written. I wrote each chapter the way I wish the material had been explained the first time: the real idea, the point where I usually get stuck, the simplest mental model that still stays honest, and a worked decision instead of a polished answer appearing from nowhere. Every chapter closes with practice and a fully written solution. If a sentence sounds impressive but does not help me solve or explain something, it does not belong here.

Daniel Mastick

Curriculum map, working notes, practice, and solutions

Course map

Week	Core thread	What should be solid by the end
1	Fretboard geometry, notes, and intervals	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
2	Rhythm, meter, subdivision, and groove	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
3	Major scale and key construction	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
4	Triads, inversions, and chord spelling	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
5	Seventh chords and extensions	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
6	CAGED, chord-scale mapping, and position systems	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
7	Functional harmony and common progressions	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
8	Minor keys, modes, pentatonics, and blues language	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
9	Voice leading, chord melody, and arrangement	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
10	Improvisation through target notes and phrasing	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
11	Songwriting, reharmonization, and form	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
12	Ear training, transcription, technique, and practice design	Reconstruct the model, work an application, test its assumptions, and explain the result in ordinary language.
9	Integration studio	Combine several chapters in one case, preserve their assumptions, and reconcile the result across representations.
10	Cumulative review	Retrieve the full course map from memory and solve mixed problems without chapter labels.

Scope anchor: <https://catalog.registrar.ucla.edu/browse/Departments/MusicIndustry/Overview>. The sequence is aligned to the official catalog description and expanded into a practical ten-week study plan.

How I would use this packet

Treat each numbered section as one chapter. Read the formal explanation, pause at the student interpretation, and see whether the easy version still says the same thing. Rework the example without looking, then cover the solution in the chapter practice box. The cumulative set at the end is deliberately mixed: knowledge becomes durable when I have to choose the tool instead of being told which chapter I am in.

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CHAPTER 1 Fretboard geometry, notes, and intervals

The idea

The guitar repeats pitch classes across strings in mostly fourths, with a major-third break between G and B. Interval shapes move while note names and enharmonic spelling preserve harmonic meaning.

Rebuild the chapter from first principles

The claim I need to own is this: The guitar repeats pitch classes across strings in mostly fourths, with a major-third break between G and B. Interval shapes move while note names and enharmonic spelling preserve harmonic meaning. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of fretboard geometry, notes, and intervals. List the known quantities, the unknown, the units or types, and any hidden constraint.
2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes, the invariant breaks, or the model stops matching reality.
- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach fretboard geometry, notes, and intervals on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from the course foundations to rhythm, meter, subdivision, and groove. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** The guitar repeats pitch classes across strings in mostly fourths, with a major-third break between G and B.
- **What moves.** Interval shapes move while note names and enharmonic spelling preserve harmonic meaning.
- **What keeps the answer honest.** The model becomes useful only when I can apply fretboard geometry, notes, and intervals to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

I learn roots and intervals together; memorizing isolated dots never helped me improvise.

The easy version

The guitar repeats pitch classes across strings in mostly fourths, with a major-third break between G and B.

Worked example

Question. From C on the fifth string third fret, where is the octave?

Walkthrough. The octave C is on the third string fifth fret. The common two-strings-up, two-frets-forward shape adjusts around the B-string tuning break.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. From C on the fifth string third fret, where is the octave?

Solution. The octave C is on the third string fifth fret. The common two-strings-up, two-frets-forward shape adjusts around the B-string tuning break.

Practice 2. Explain fretboard geometry, notes, and intervals to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct fretboard geometry, notes, and intervals from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a fretboard geometry, notes, and intervals problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output? Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

CHAPTER 2 Rhythm, meter, subdivision, and groove

The idea

Pulse, meter, subdivision, syncopation, articulation, dynamics, and microtiming determine feel before pitch choice matters. Counting, clapping, muted strumming, and metronome displacement build reliable time.

Rebuild the chapter from first principles

The claim I need to own is this: Pulse, meter, subdivision, syncopation, articulation, dynamics, and microtiming determine feel before pitch choice matters. Counting, clapping, muted strumming, and metronome displacement build reliable time. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of rhythm, meter, subdivision, and groove. List the known quantities, the unknown, the units or types, and any hidden constraint.
2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes, the invariant breaks, or the model stops matching reality.
- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach rhythm, meter, subdivision, and groove on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from fretboard geometry, notes, and intervals to major scale and key construction. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** Pulse, meter, subdivision, syncopation, articulation, dynamics, and microtiming determine feel before pitch choice matters.
- **What moves.** Counting, clapping, muted strumming, and metronome displacement build reliable time.

- **What keeps the answer honest.** The model becomes useful only when I can apply rhythm, meter, subdivision, and groove to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

My shorthand for this chapter is: my shorthand for this chapter is: if the groove does not work on muted strings, more notes will not save it.

The easy version

Pulse, meter, subdivision, syncopation, articulation, dynamics, and microtiming determine feel before pitch choice matters.

Worked example

Question. How would I practice a sixteenth-note funk pattern?

Walkthrough. Count 1-e-and-a aloud, mute strings, place accents and rests precisely, start slow, record against a click, then move the click to beats two and four or one click per bar.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. How would I practice a sixteenth-note funk pattern?

Solution. Count 1-e-and-a aloud, mute strings, place accents and rests precisely, start slow, record against a click, then move the click to beats two and four or one click per bar.

Practice 2. Explain rhythm, meter, subdivision, and groove to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct rhythm, meter, subdivision, and groove from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a rhythm, meter, subdivision, and groove problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output? Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

CHAPTER 3 Major scale and key construction

The idea

The major scale follows whole-whole-half-whole-whole-whole-half. Scale degrees, key signatures, movable shapes, positions, and horizontal connections turn that interval pattern into the tonal map.

Rebuild the chapter from first principles

The claim I need to own is this: The major scale follows whole-whole-half-whole-whole-whole-half. Scale degrees, key signatures, movable shapes, positions, and horizontal connections turn that interval pattern into the tonal map. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of major scale and key construction. List the known quantities, the unknown, the units or types, and any hidden constraint.
2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.

- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes, the invariant breaks, or the model stops matching reality.
- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach major scale and key construction on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from rhythm, meter, subdivision, and groove to triads, inversions, and chord spelling. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** The major scale follows whole-whole-half-whole-whole-whole-half.
- **What moves.** Scale degrees, key signatures, movable shapes, positions, and horizontal connections turn that interval pattern into the tonal map.
- **What keeps the answer honest.** The model becomes useful only when I can apply major scale and key construction to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

I hear scale degrees as jobs: home, tension, pull, and color, not just finger numbers.

The easy version

The major scale follows whole-whole-half-whole-whole-whole-half.

Worked example

Question. Spell E major.

Walkthrough. E, F-sharp, G-sharp, A, B, C-sharp, D-sharp, E. The key has four sharps.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. Spell E major.

Solution. E, F-sharp, G-sharp, A, B, C-sharp, D-sharp, E. The key has four sharps.

Practice 2. Explain major scale and key construction to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct major scale and key construction from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a major scale and key construction problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output? Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

CHAPTER 4 Triads, inversions, and chord spelling

The idea

Triads stack diatonic thirds into major, minor, diminished, and augmented qualities. Inversions change bass note and voice leading without changing root identity; shell voicings expose harmonic function with less clutter.

Rebuild the chapter from first principles

The claim I need to own is this: Triads stack diatonic thirds into major, minor, diminished, and augmented qualities. Inversions change bass note and voice leading without changing root identity; shell voicings expose harmonic function with less clutter. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of triads, inversions, and chord spelling. List the known quantities, the unknown, the units or types, and any hidden constraint.

2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes, the invariant breaks, or the model stops matching reality.
- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach triads, inversions, and chord spelling on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from major scale and key construction to seventh chords and extensions. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** Triads stack diatonic thirds into major, minor, diminished, and augmented qualities.
- **What moves.** Inversions change bass note and voice leading without changing root identity; shell voicings expose harmonic function with less clutter.
- **What keeps the answer honest.** The model becomes useful only when I can apply triads, inversions, and chord spelling to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

I spell the chord before grabbing a shape so I know which notes I can move or omit.

The easy version

Triads stack diatonic thirds into major, minor, diminished, and augmented qualities.

Worked example

Question. Spell D minor and its first inversion.

Walkthrough. D minor is D-F-A. First inversion puts F in the bass: F-A-D, in any playable distribution.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. Spell D minor and its first inversion.

Solution. D minor is D-F-A. First inversion puts F in the bass: F-A-D, in any playable distribution.

Practice 2. Explain triads, inversions, and chord spelling to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct triads, inversions, and chord spelling from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a triads, inversions, and chord spelling problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output? Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

CHAPTER 5 Seventh chords and extensions

The idea

Seventh chords add a third above the triad: major seventh, dominant seventh, minor seventh, half-diminished, diminished seventh, and minor-major seventh. Ninths, elevenths, thirteenth, alterations, and omissions color function while avoiding voicing collisions.

Rebuild the chapter from first principles

The claim I need to own is this: Seventh chords add a third above the triad: major seventh, dominant seventh, minor seventh, half-diminished, diminished seventh, and minor-major seventh. Ninths, elevenths, thirteenth, alterations, and omissions color function while avoiding voicing collisions. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of seventh chords and extensions. List the known quantities, the unknown, the units or types, and any hidden constraint.
2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes, the invariant breaks, or the model stops matching reality.
- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach seventh chords and extensions on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from triads, inversions, and chord spelling to caged, chord-scale mapping, and position systems. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** Seventh chords add a third above the triad: major seventh, dominant seventh, minor seventh, half-diminished, diminished seventh, and minor-major seventh.
- **What moves.** Ninths, elevenths, thirteenths, alterations, and omissions color function while avoiding voicing collisions.
- **What keeps the answer honest.** The model becomes useful only when I can apply seventh chords and extensions to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

On guitar I prioritize third and seventh because they tell the listener what the chord is doing.

The easy version

Seventh chords add a third above the triad: major seventh, dominant seventh, minor seventh, half-diminished, diminished seventh, and minor-major seventh.

Worked example

Question. Spell G7 and identify its guide tones.

Walkthrough. G-B-D-F. The guide tones are B, the major third, and F, the minor seventh; they resolve efficiently toward C and E in C major.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. Spell G7 and identify its guide tones.

Solution. G-B-D-F. The guide tones are B, the major third, and F, the minor seventh; they resolve efficiently toward C and E in C major.

Practice 2. Explain seventh chords and extensions to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct seventh chords and extensions from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a seventh chords and extensions problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output? Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

CHAPTER 6 CAGED, chord-scale mapping, and position systems

The idea

CAGED connects five overlapping octave, chord, arpeggio, and scale frameworks. It is a navigation system, not five separate keys; interval awareness prevents boxes from becoming cages.

Rebuild the chapter from first principles

The claim I need to own is this: CAGED connects five overlapping octave, chord, arpeggio, and scale frameworks. It is a navigation system, not five separate keys; interval awareness prevents boxes from becoming cages. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of caged, chord-scale mapping, and position

systems. List the known quantities, the unknown, the units or types, and any hidden constraint.

2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes, the invariant breaks, or the model stops matching reality.
- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach caged, chord-scale mapping, and position systems on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from seventh chords and extensions to functional harmony and common progressions. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** CAGED connects five overlapping octave, chord, arpeggio, and scale frameworks.
- **What moves.** It is a navigation system, not five separate keys; interval awareness prevents boxes from becoming cages.
- **What keeps the answer honest.** The model becomes useful only when I can apply caged, chord-scale mapping, and position systems to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives,

and diagnose a broken solution without relying on recognition.

How I actually think about it

I name the root positions inside every shape before adding scale notes around them.

The easy version

CAGED connects five overlapping octave, chord, arpeggio, and scale frameworks.

Worked example

Question. How should an A-shape C major chord connect to improvisation?

Walkthrough. Locate C, E, and G in the voicing, outline those chord tones, add nearby C-major scale tones, and connect to the neighboring G- and C-form regions without losing the harmonic target.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. How should an A-shape C major chord connect to improvisation?

Solution. Locate C, E, and G in the voicing, outline those chord tones, add nearby C-major scale tones, and connect to the neighboring G- and C-form regions without losing the harmonic target.

Practice 2. Explain caged, chord-scale mapping, and position systems to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct caged, chord-scale mapping, and position systems from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a caged, chord-scale mapping, and position systems problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output? Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

CHAPTER 7 Functional harmony and common progressions

The idea

Tonic, predominant, and dominant functions organize diatonic harmony. Roman numerals, cadences, secondary dominants, borrowed chords, and voice leading explain why progressions work across keys and capo positions.

Rebuild the chapter from first principles

The claim I need to own is this: Tonic, predominant, and dominant functions organize diatonic harmony. Roman numerals, cadences, secondary dominants, borrowed chords, and voice leading explain why progressions work across keys and capo positions. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of functional harmony and common progressions. List the known quantities, the unknown, the units or types, and any hidden constraint.
2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes, the invariant breaks, or the model stops matching reality.
- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach functional harmony and common progressions on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from caged, chord-scale mapping, and position systems to minor keys, modes, pentatonics, and blues language. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** Tonic, predominant, and dominant functions organize diatonic harmony.
- **What moves.** Roman numerals, cadences, secondary dominants, borrowed chords, and voice leading explain why progressions work across keys and capo positions.
- **What keeps the answer honest.** The model becomes useful only when I can apply functional harmony and common progressions to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

I hear the bass and guide-tone motion before naming a progression clever.

The easy version

Tonic, predominant, and dominant functions organize diatonic harmony.

Worked example

Question. Analyze C-Am-Dm-G in C major.

Walkthrough. It is I-vi-ii-V: tonic expands to relative minor, moves to predominant ii, then dominant V, which strongly points back to I.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. Analyze C-Am-Dm-G in C major.

Solution. It is I-vi-ii-V: tonic expands to relative minor, moves to predominant ii, then dominant V, which strongly points back to I.

Practice 2. Explain functional harmony and common progressions to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct functional harmony and common progressions from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a functional harmony and common progressions problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output? Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

CHAPTER 8 Minor keys, modes, pentatonics, and blues language

The idea

Natural, harmonic, and melodic minor support changing dominant and melodic needs. Modes emphasize characteristic degrees over a tonal center; pentatonic and blues vocabularies combine chord tones, bends, approach notes, and phrasing.

Rebuild the chapter from first principles

The claim I need to own is this: Natural, harmonic, and melodic minor support changing dominant and melodic needs. Modes emphasize characteristic degrees over a tonal center; pentatonic and blues vocabularies combine chord tones, bends, approach notes, and phrasing. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of minor keys, modes, pentatonics, and blues language. List the known quantities, the unknown, the units or types, and any hidden constraint.
2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes, the invariant breaks, or the model stops matching reality.
- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach minor keys, modes, pentatonics, and blues language on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from functional harmony and common progressions to voice leading, chord melody, and arrangement. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** Natural, harmonic, and melodic minor support changing dominant and melodic needs.
- **What moves.** Modes emphasize characteristic degrees over a tonal center; pentatonic and blues vocabularies combine chord tones, bends, approach notes, and phrasing.

- **What keeps the answer honest.** The model becomes useful only when I can apply minor keys, modes, pentatonics, and blues language to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

My shorthand for this chapter is: my shorthand for this chapter is: a mode is a sound over a center, not merely a major scale started on another fret.

The easy version

Natural, harmonic, and melodic minor support changing dominant and melodic needs.

Worked example

Question. What makes D Dorian different from D natural minor?

Walkthrough. D Dorian has a natural sixth, B, instead of B-flat. That degree colors the tonic minor sound and supports a major IV chord.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. What makes D Dorian different from D natural minor?

Solution. D Dorian has a natural sixth, B, instead of B-flat. That degree colors the tonic minor sound and supports a major IV chord.

Practice 2. Explain minor keys, modes, pentatonics, and blues language to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct minor keys, modes, pentatonics, and blues language from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a minor keys, modes, pentatonics, and blues language problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output?

Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

CHAPTER 9 Voice leading, chord melody, and arrangement

The idea

Good guitar harmony minimizes unnecessary motion, preserves common tones, shapes top-line melody, controls register, and distributes bass, guide tones, color tones, and rhythm across available strings.

Rebuild the chapter from first principles

The claim I need to own is this: Good guitar harmony minimizes unnecessary motion, preserves common tones, shapes top-line melody, controls register, and distributes bass, guide tones, color tones, and rhythm across available strings. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of voice leading, chord melody, and arrangement. List the known quantities, the unknown, the units or types, and any hidden constraint.
2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes,

the invariant breaks, or the model stops matching reality.

- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach voice leading, chord melody, and arrangement on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from minor keys, modes, pentatonics, and blues language to improvisation through target notes and phrasing. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** Good guitar harmony minimizes unnecessary motion, preserves common tones, shapes top-line melody, controls register, and distributes bass, guide tones, color tones, and rhythm across available strings.
- **What moves.** The model becomes useful only when I can apply voice leading, chord melody, and arrangement to an unfamiliar case and defend the assumptions.
- **What keeps the answer honest.** The model becomes useful only when I can apply voice leading, chord melody, and arrangement to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

My shorthand for this chapter is: my shorthand for this chapter is: the nearest voicing is often more musical than the most impressive grip.

The easy version

Good guitar harmony minimizes unnecessary motion, preserves common tones, shapes top-line melody, controls register, and distributes bass, guide tones, color tones, and rhythm across available strings.

Worked example

Question. Voice-lead G7 to Cmaj7 with guide tones.

Walkthrough. Move B up to C and F down to E while G may remain common; those half-step resolutions communicate dominant-to-tonic even in a two-note shell.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. Voice-lead G7 to Cmaj7 with guide tones.

Solution. Move B up to C and F down to E while G may remain common; those half-step resolutions communicate dominant-to-tonic even in a two-note shell.

Practice 2. Explain voice leading, chord melody, and arrangement to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct voice leading, chord melody, and arrangement from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a voice leading, chord melody, and arrangement problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output? Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

CHAPTER 10 Improvisation through target notes and phrasing

The idea

Improvisation combines time, motif, contour, chord-tone targeting, tension and release, articulation, space, transcription, and interaction. Scale choice is only the raw alphabet.

Rebuild the chapter from first principles

The claim I need to own is this: Improvisation combines time, motif, contour, chord-tone targeting, tension and release, articulation, space, transcription, and interaction. Scale choice is only the raw alphabet. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and

explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of improvisation through target notes and phrasing. List the known quantities, the unknown, the units or types, and any hidden constraint.
2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes, the invariant breaks, or the model stops matching reality.
- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach improvisation through target notes and phrasing on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from voice leading, chord melody, and arrangement to songwriting, reharmonization, and form. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** Improvisation combines time, motif, contour, chord-tone targeting, tension and release, articulation, space, transcription, and interaction.
- **What moves.** Scale choice is only the raw alphabet.
- **What keeps the answer honest.** The model becomes useful only when I can apply improvisation through target notes and phrasing to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

I would rather develop one rhythmic idea through the changes than run the correct scale without saying anything.

The easy version

Improvisation combines time, motif, contour, chord-tone targeting, tension and release, articulation, space, transcription, and interaction.

Worked example

Question. How can I outline a ii-V-I in C with one guide-tone line?

Walkthrough. Over Dm7 use F, keep or approach F over G7 as its seventh, then resolve F down to E over Cmaj7; pair it with C-B-C or other smooth chord-tone motion.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. How can I outline a ii-V-I in C with one guide-tone line?

Solution. Over Dm7 use F, keep or approach F over G7 as its seventh, then resolve F down to E over Cmaj7; pair it with C-B-C or other smooth chord-tone motion.

Practice 2. Explain improvisation through target notes and phrasing to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct improvisation through target notes and phrasing from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects

and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a improvisation through target notes and phrasing problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output? Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

CHAPTER 11 Songwriting, reharmonization, and form

The idea

Songs organize motive, phrase, harmonic rhythm, sections, contrast, repetition, melody, lyric prosody, texture, and register. Reharmonization changes bass, function, or color while protecting the melody's important tones.

Rebuild the chapter from first principles

The claim I need to own is this: Songs organize motive, phrase, harmonic rhythm, sections, contrast, repetition, melody, lyric prosody, texture, and register. Reharmonization changes bass, function, or color while protecting the melody's important tones. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of songwriting, reharmonization, and form. List the known quantities, the unknown, the units or types, and any hidden constraint.
2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes, the invariant breaks, or the model stops matching reality.
- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach songwriting, reharmonization, and form on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from improvisation through target notes and phrasing to ear training, transcription, technique, and practice design. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** Songs organize motive, phrase, harmonic rhythm, sections, contrast, repetition, melody, lyric prosody, texture, and register.
- **What moves.** Reharmonization changes bass, function, or color while protecting the melody's important tones.
- **What keeps the answer honest.** The model becomes useful only when I can apply songwriting, reharmonization, and form to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

I change one structural variable at a time so I can hear why the rewrite works.

The easy version

Songs organize motive, phrase, harmonic rhythm, sections, contrast, repetition, melody, lyric prosody, texture, and register.

Worked example

Question. How might I reharmonize a melody note E held over C major?

Walkthrough. Possible supports include C major, A minor, E minor, Fmaj7, or a secondary-function chord containing E. Choose according to desired bass motion and function, then check surrounding voice leading.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. How might I reharmonize a melody note E held over C major?

Solution. Possible supports include C major, A minor, E minor, Fmaj7, or a secondary-function chord containing E. Choose according to desired bass motion and function, then check surrounding voice leading.

Practice 2. Explain songwriting, reharmonization, and form to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct songwriting, reharmonization, and form from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a songwriting, reharmonization, and form problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output? Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

CHAPTER 12 Ear training, transcription, technique, and practice design

The idea

Complete musicianship connects hearing, singing, fretboard recognition, notation or charts, technique, tone, and repertoire. Deliberate practice isolates a failure, slows it, measures it, varies context, and returns it to music.

Rebuild the chapter from first principles

The claim I need to own is this: Complete musicianship connects hearing, singing, fretboard recognition, notation or charts, technique, tone, and repertoire. Deliberate practice isolates a failure, slows it, measures it, varies context, and returns it to music. I do not count that as learned just because the sentence looks familiar. I should be able to name the objects, state what changes and what stays fixed, recover the rule from the definitions, and explain why the result is allowed.

The move

My working sequence

1. **Translate.** Rewrite the prompt in the language of ear training, transcription, technique, and practice design. List the known quantities, the unknown, the units or types, and any hidden constraint.
2. **Choose.** State the theorem, model, algorithm, accounting rule, or physical law before substituting values. This is where I make the assumption visible.
3. **Execute.** Work one justified step at a time and keep intermediate state readable enough that I can audit it later.
4. **Verify.** Check a boundary case, sign, unit, invariant, order of magnitude, or alternative derivation. Then translate the result back into an ordinary sentence.

Details I would refuse to skip

- **Definitions:** I should be able to define every technical noun in the chapter without using that same noun in the definition.
- **Assumptions:** I write the condition that makes the method legal beside the method itself. A correct procedure under the wrong assumptions is still a wrong answer.
- **Representation:** I move freely among words, equations or code, a diagram, and a small numerical example. If one representation disagrees with another, that disagreement is useful evidence.
- **Failure modes:** I keep the nearest counterexample in mind: the boundary where the rule changes, the invariant breaks, or the model stops matching reality.
- **Communication:** My final answer names what the result means and what it does not establish. I do not let notation do the explanatory work for me.

Sanity check

Closed-note check. Can I teach ear training, transcription, technique, and practice design on a blank page, derive or reconstruct its main rule, work a fresh example, and diagnose a deliberately broken solution? If I can only recognize the finished work, I am not done.

How this chapter connects

I read this chapter as the bridge from songwriting, reharmonization, and form to the cumulative course model. The earlier material supplies the language and constraints; this chapter adds a new reasoning move; the later material asks me to use that move without being told its name. That connection matters because exams and real projects mix chapters on purpose.

The full working model

- **Core claim.** Complete musicianship connects hearing, singing, fretboard recognition, notation or charts, technique, tone, and repertoire.
- **What moves.** Deliberate practice isolates a failure, slows it, measures it, varies context, and returns it to music.
- **What keeps the answer honest.** The model becomes useful only when I can apply ear training, transcription, technique, and practice design to an unfamiliar case and defend the assumptions.
- **Mastery standard.** I can define the objects, rebuild the rule, work a fresh case, compare alternatives, and diagnose a broken solution without relying on recognition.

How I actually think about it

My shorthand for this chapter is: my practice log names the exact miss and the next test; 'practice scales' is too vague to improve anything.

The easy version

Complete musicianship connects hearing, singing, fretboard recognition, notation or charts, technique, tone, and repertoire.

Worked example

Question. Design a 30-minute theory-to-guitar session.

Walkthrough. Five minutes sing intervals, five map one key, five spell and voice its diatonic seventh chords, five transcribe a phrase, five improvise targeting chord tones, and five record and review one tune section.

Common miss

The fastest way to get this chapter wrong is to use the visible procedure without naming its assumption, units, time period, reference group, or boundary. I put that condition beside the work and verify the result independently.

Solved chapter practice

Practice 1. Design a 30-minute theory-to-guitar session.

Solution. Five minutes sing intervals, five map one key, five spell and voice its diatonic seventh chords, five transcribe a phrase, five improvise targeting chord tones, and five record and review one tune section.

Practice 2. Explain ear training, transcription, technique, and practice design to a classmate using one definition, one concrete example, one assumption, and one failure mode.

Solution. Begin with the core claim above, use the worked case as the concrete example, state the condition highlighted by the warning, and choose a failure where that condition does not hold. A complete explanation connects all four pieces instead of listing them.

Mastery practice A. Reconstruct ear training, transcription, technique, and practice design from a blank page. Include the central definition, the governing rule, one required assumption, and one boundary case.

Solution. Start from the blue idea box, but rewrite it in my own words. Identify the objects and state, name the rule before using it, copy the relevant assumption from the details audit, and choose a boundary where that assumption becomes equality or fails. A complete solution explains why each part belongs; a list of vocabulary is not enough.

Mastery practice B. A classmate gets a polished-looking answer to a ear training, transcription, technique, and practice design problem but never states a model or checks the result. Write the shortest useful review of that solution.

Solution. I would ask four concrete questions: What exactly are the inputs and desired output? Which rule licenses the main step? Which assumption could invalidate it? Which independent check supports the conclusion? If the answer cannot survive those four questions, I treat the numerical or verbal result as unverified.

Cumulative study plan

I use this packet in three passes. First I reconstruct each model and work its examples without looking. Second I mix chapters so the tool is no longer named for me. Third I explain a complete case aloud, including assumptions, units, uncertainty, failure modes, and what evidence would change my conclusion.