Music Theory for Guitar

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Chapter 1

Learning by Doing: An Introduction

1.1 Learning-by-Doing: Practical Tips for getting the most out of these courses

Many courses teach you the theory first and then (maybe) let you practice using them in carefully controlled situations to do things that teachers expect you to be able to do. If you are expected at all to apply the idea in the messy arena of the real world, it is only after you have finished the approved learning. As discussed in detail below (Section 1.2: The Philosophy behind Learning-by-Doing), learning-by-doing turns this traditional approach on its head. It assumes that the best way to begin learning about theoretical concepts is to use them to do things in the real world that you want to or need to do. The end result may be that you know the theory less thoroughly (so learning by doing may not be ideal if you need a thorough conceptual background), but you understand the most useful concepts more deeply and can use them in the real-life situations that matter to you.

NOTE: At the time of publication, I am also publishing five learning-by-doing courses in the area of music: a course on Reading Rhythms written in common notation, suitable for any instrument (including voice and body percussion); a course that helps guitar tablature readers learn common notation; and three courses that can be used without learning to read common notation: Music Theory for Digital Audio Workstation, Music Theory for Guitar, and an Exploring Music Theories course for those who would like to learn more about unfamiliar music traditions. Please note that these are all short experimental courses. Feedback is much appreciated, and I will expand and refine the courses based on reader response and interest.

To get anything out of these courses, you must do some of the activities! Do not just read about them, and do not just imagine yourself doing them. Because human beings have very vivid imaginations, it is actually quite easy to imagine doing something well, and thus fool yourself into believing that you “get it,” when in practice you would actually struggle to do it or understand it. Simply reading about an idea without experimenting with it yourself is about as useful as watching an exercise video without doing the exercises. You don’t have to do all the activities suggested in a module, just the ones that are most enjoyable or most closely related to things that you need to or want to do with music in your real life. And in the spirit of learning by doing, you should always feel free to adapt the activities to better fit your immediate music-learning projects and goals.

1This content is available online at <http://cnx.org/content/m62540/1.2/>.
2Reading Rhythms: A Learning-by-Doing Course <http://cnx.org/content/col12057/latest/>
3Common Notation for Guitar Tablature Readers <http://cnx.org/content/col12059/latest/>
4Music Theory for Digital Audio Workstation <http://cnx.org/content/col12061/latest/>
5Music Theory for Guitar <http://cnx.org/content/col12000/latest/>
6Exploring Music Theories <http://cnx.org/content/col12058/latest/>
Also, be prepared to take the course slowly, as if the point is to enjoy the process rather than to get to the end of the course. Concepts are introduced one at a time, with invitations to explore each one before proceeding to the next. The payoff to the slow approach is that whenever you take time to let an idea become familiar, it not only becomes more useful for real-world activities, it also becomes more useful for learning about other concepts! Over the long run, you are laying down a foundation that will eventually help you understand the more advanced concepts more quickly and easily. As each concept becomes useful and familiar, it is also less likely to be completely forgotten, and easier to re-learn, even when you set it aside for months or years.

If a concept is familiar to you, it is of course fine to move past it quickly or even to skip it altogether. How do you know when a music concept is familiar enough to move on? Can you:

- Recognize it when you hear it in real music?
- Write out an example of it, or point out an example in written music?
- Demonstrate it using your body (for example by singing, humming, or clapping)?
- Play an example of it on an instrument?
- Demonstrate a counter-example? In other words, can you hear or sing or play something that is definitely NOT an example of the concept, and explain why it is not?

If you cannot easily do at least two of the activities in the list, with confidence that you are correct, then don’t be in a hurry to move on. Play with the idea more than once, over the course of several days or even weeks, until you can confidently recognize and DO (hear/play/write/sing) the concept. The slow pace should not be frustrating if you choose activities that are at an interesting level (not so easy that they are boring, and not so difficult that they are frustrating) and that are related to your own music goals. Do you want to be a more knowledgeable listener? A better improviser? A better music reader? Do you want to play by ear? Compose or arrange music? You’ll know you are really learning-by-doing when it’s difficult to draw a line between learning about theory and doing your favorite or ideal music activities. To help you out with this, there is a wide variety of activities to choose from in the modules in these courses, and most of the activities are described in general terms, so that you can easily adapt them to your goals and situation.

Finally, the activities come with suggestions for gathering feedback, so that you know whether your use of the concept fits with other people’s understanding of it. Take the feedback steps seriously. One of the main uses of music theory, notation, and acoustics is that they are useful for discussing music with other people, so you will want to make sure that your interpretation of the concepts is reasonably similar to theirs. Shared concepts can also help you create music that other people like, so again, you want to make sure that your idea of how to use a concept is in line with what other people expect and enjoy. Again, the key to not getting frustrated is to not be in a hurry. If feedback, from others or from your own careful listening, suggests that you might be misunderstanding a concept or not using it well, try to work out a way to make the activity easier, or to get some help from a more experienced musician, or to switch to a different, easier activity for a while. Also, if feedback suggests that maybe you don’t understand an idea or term that you thought you already understood, don’t hesitate to go back to previous modules and try to work out what is causing your confusion. From the perspective of learning, it is particularly worthwhile to work through your confusions until you have found the root of the problem, because the resulting “aha” moment is usually a significant step forward in your understanding.

Please note, however, that negative, unhelpful feedback on your personal projects can be terribly demotivating, and psychologically harmful. See Providing Constructive Criticism in Music7 for information on how to provide or ask for feedback that is both useful and psychologically positive, or, when you cannot get feedback from others, how to usefully critique your own work. The activities in this course also include plenty of pointers for keeping feedback positive and useful.

Here is a quick summary of the above tips:

7Providing Constructive Criticism in Music <http://cnx.org/content/md43427/latest/>
• Whenever a concept is not already familiar and useful to you, do some of the suggested activities regularly until it becomes familiar and usable.
• Don’t be in a hurry to move on. Try to find activities that you enjoy or want to be able to do, so that you will be content to explore each concept until it becomes very familiar and easy to use.
• Gather positive, useful feedback in order to make sure that your understanding of the concept is well connected to the understandings and preferences of others.

1.2 The Philosophy behind Learning-by-Doing

You don’t have to understand the philosophy in order to do these courses; feel free to skip the rest of this module and move on to the hands-on modules if this does not interest you. Read on if you are not sure whether this approach is right for you, or if you think that understanding the philosophy will help you be more successful in using it.

The goal of a learning-by-doing course is to help you make useful connections between the activities that you actually need to or want to do in the real world and the relevant theoretical concepts and terms that can help you organize and think about those activities. The basic ideas behind learning-by-doing are:

1. All theoretical concepts are somehow useful for real-world activities.
2. General theoretical understanding always begins with specific real-world understanding.
3. Practical activities that you actually want to or need to do are the best place to begin understanding the concepts.
4. Getting feedback on real-world projects is also the best way to check whether or not you have a good understanding of the concept.

1.2.1 1. Using theory to do things in the real world

All theoretical concepts are somehow useful for doing things that people need to or want to do; otherwise nobody would have bothered to invent and share them. (Some of them might only be useful to professional physicists or linguists, for example, but they are all truly useful to some group of people!) The real-world uses are actually the main point of the theoretical concepts. Even if you have studied a concept to the point that you can define and discuss it, if you haven’t actually used it to do something that "needs doing" (as opposed to "doing" a coursework-type problem), you really have only a vague idea of what you are talking about. That vague idea might be so limited or misleading that when you do find yourself in a situation in which it could actually be useful, you may not know how to apply it, or may not even realize that it is applicable!

A theory-only concept is, by its nature, a weak spot in your understanding. Because it is weak, it is difficult to build on. Consider, for example, these two fake definitions: “A mibble is a brown animal with a long tail” and “A fliss is a deciduous angiosperm with an actinomorphic calyx.” Although the definition of “mibble” is not real, you could probably use it, because it is based on familiar concepts like “brown” and “animal”. If required, you could use it to:

- name examples of mibbles
- decide whether any specific animal can be classified as a mibble
- answer simple questions about mibbles (such as “Do any of them make good pets?”)
- understand mibble-dependent concepts (such as “a mibble-ty is a mibble that can swim”)

Unless you know a lot about plants, you are probably having more trouble with flisses. Even if you memorize the definition and look up the meaning of all of the words, could you decide whether or not a certain plant qualifies as a fliss? Could you answer simple questions about them (such as “Do any of them make good house plants”)? How certain would you be of your answers? The problem is that terms like “deciduous” are, for most of us, a bit theoretical. Even if we see deciduous plants every day, we don’t use the idea “deciduous”
to do things in their own lives. “Brown,” on the other hand, is an idea that we use to do things in our own lives, such as deciding which pair of shoes to wear. Brown is not a merely theoretical concept; it is practical, useful, familiar and comfortable.

Of course, if your job involves deciding what type of trees to plant, then “deciduous” becomes a very useful and comfortable term, too. If you want music theory to become familiar and comfortable, this practical approach is just what you want. For example, you probably hear "perfect fifths" in music all the time, but you don’t think of them in those terms, just as you don’t think of the trees that you walk past as being deciduous. But if you start using the term “perfect fifths” to do things, such as deciding what notes to use in an improvisation, “perfect fifths” will eventually no longer be a vague theoretical concept; it will become a practical idea that you are comfortable using to describe the sounds that you hear or make.

**Important:** You should note, however, that learning all of the conceptual information at once, in a clear, formal, structured format, is usually faster and more efficient, so if you are certain that you will need a wide and deep conceptual understanding of a certain area (for example, if you will need to be able to formally analyze contrapuntal music), you may find traditional-style courses to be a better option for you than learning by doing.

### 1.2.2 2. Starting with specific understanding

General understanding starts with specific understanding. Nobody’s understanding of an unfamiliar concept begins as a complete overview. You start with one or two clues, based on a formal definition or a few examples or the way someone else uses the concept. Your first idea of it will almost certainly be incomplete or even partially mistaken. As you start trying the idea out for yourself, you and other people may notice mistakes in your use of the concept that are caused by incomplete understanding, rather than by a simple need for practice. The mistakes can be frustrating, sometimes even embarrassing, but they help you get a clearer, more complete and accurate idea of what the concept means and how to use it.

As you get more comfortable with a concept, you may start to notice that there are different ways to use terms, or that different people use different terms for the same ideas. This is because they have had different experiences with the terms and concepts, for example using them with different groups of people, different styles of music, or different instruments. The more comfortable you are with a concept, the easier it becomes to work with other people who have had different experiences or use different terms to talk about it. Four-year-olds who have had different experiences with plants may have trouble discussing “plants” with each other. Biologists who have had different experiences not only have little trouble using the term “plant” with each other, they also have little trouble accommodating a four-year-old’s understanding of the term. You will find the same is true for music theory; the more you learn about how it is relevant to what you do, the easier it will be to talk to all kinds of musicians about what they do.

### 1.2.3 3. Doing things that you really want to or need to do

Using theoretical concepts to do practical things that you actually want to or need to do is the best way to get to know the concepts, because it helps you understand what the concepts are for. This “big picture” understanding will also help you recognize other specific ways that you might be able to use the concepts in your life, which will help you keep them in mind rather than forgetting them. Working on something that really matters to you personally will also help you work through those moments when you realize you are doing something wrong, instead of quitting in frustration or deciding that you are “not good at it.”

Note that “**needing to** do an assignment for a class does not count as learning-by-doing, unless you feel that the goals of the course and of the assignment are relevant to your real life.” (And getting a good grade in the course does not count as a learning-by-doing goal, because in that case, what you are “doing” is getting good grades, not making music.) For example, if the goal of a course is to be able to write a chorale in the style of Bach, then this is not learning-by-doing unless you yourself need to or want to write Bach-style chorales, or unless you know how the assignments will help you reach

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your own goals. If you will need to write Bach-style chorales for your dream job as director of a choir, then that is learning-by-doing. If your goal is to write Chopin-style etudes, or Beatles-style songs, and you can see how the exercises in functional harmony and voice-leading will help you do those activities, then that is also learning-by-doing. On the other hand, if the teacher knows how the assignments could help you reach those goals, but you don’t know, that does not count as learning-by-doing. In that case, the teacher has the practical knowledge, not you. To you, the ideas are still theoretical; they are about “how someone would do that” as opposed to “how I could do this.”

Learning by doing is not a new idea at all, nor is it particularly controversial; the ideas behind this course have been explored by educators and approved by psychologists for decades. (If you would like to learn more about the theory behind these courses, I recommend reading about inquiry, inquiry-based learning, project-based learning, or active learning. The writing of John Dewey is a personal favorite of mine.)

However, the ideas can be challenging for teachers to implement in traditional school situations. It is difficult to provide students in school with the opportunity to do the things that directly interest them, because different students in the same class are probably not going to be truly interested in the same activities. So formal education sometimes simply gives you the theoretical concepts, without making you use them at all. When this is the case, unless the information itself catches your interest, you usually forget it as soon as forgetting is allowed (in other words, after the final test).

Good formal education include activities that interest some people, usually the experts in that subject and those who want to become experts. For example, you might be asked to use physics to design a safe bridge, or to use literary skills to analyze Shakespeare, or to use music theory to write a chorale. These activities help you to make sense of the concepts, which helps you remember them. They also give you some idea of what the concepts are for, but these “expert uses” may not give you much idea of what you yourself might be able to do with the concepts in everyday life.

For example, you might use physics to help you do skateboard tricks, use literary skills to discuss a favorite novel at book club, or use music theory to write a rock song. Often, teachers are so familiar with the concepts that such everyday uses are obvious to them. They may not realize, or may forget, that everyday uses are not obvious when concepts are new and unfamiliar; or they may feel that everyday uses do not belong in formal education. However, if you don’t start using the concepts yourself in everyday life, then without practice you eventually forget the concepts or forget how to use them. So, once you decide to learn more about a subject on your own, it is useful to abandon the formal-education approach and set out instead to find ways to use the concepts in projects that you want to or have to do as part of your own real life.

Modern technologies are making it easier to offer learning-by-doing within a course setting, but many courses use modern technology for other reasons. If you prefer this type of learning, or want to try it out while guided by an experienced teacher, look for courses that are so flexible that students are expected to help set their own goals, activities, texts, and materials for the course. Note that if there are courses that are closely aligned with your own goals, a traditional-style course may be a better choice, because it is carefully designed to get you to the goal as quickly and efficiently as possible.

1.2.4 4. Getting feedback on real-world projects

Again, in a formal-education setting, getting feedback usually means being told that you are “right” or “wrong” when you discuss or define the concept, or use it to solve a clearly-defined, expert-use type of problem. Since this is feedback on a theoretical level, it doesn’t give you a good idea of whether your own understanding of the concept is useful for the not-so-clearly defined problems you meet in the real world. In contrast, feedback on your own projects is feedback at that real-world-usefulness level.

The real world itself may provide all the feedback you need; for example, if you misunderstand the physics of skateboarding, gravity and momentum may supply some very practical and memorable feedback. Similarly, if you try to use concepts from a write-Bach-chorales course to write a pop song, your own ears may tell you that something about the way you are using the concepts is not right.

However, if the concepts you are trying to learn have a large social component, then feedback from other people is also very useful. For example, the reactions of other people to your pop song are a source of useful
information, and feedback from another musician who can perhaps help you locate specific reasons why the song isn’t working well can be extremely useful.

Interestingly, there is a lot of evidence that feedback does not have to come from experts to be useful. This is why, for example, so many rock and pop musicians manage to “teach themselves” how to play simply by being in bands with other musicians who are at the same level as them. Band members give each other helpful and encouraging feedback, because that makes the entire group sound better, and in this way they simply work out together how to make music that sounds good to them and to their fans.

However, such self-taught musicians often don’t have a clear understanding of theoretical terms and concepts. A knowledgeable musician can more easily provide useful help in this area, perhaps even to the point of being able to explain to you what you are misunderstanding and why and how that is affecting what you are doing. But when such feedback is unavailable, keep in mind that anyone who understands the principles of constructive feedback\(^8\) and is willing to listen carefully can provide clues that will help you better understand what you are doing.

\(^8\)“Providing Constructive Criticism in Music” [http://cnx.org/content/m43427/latest/](http://cnx.org/content/m43427/latest/)

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Chapter 2

Music Theory for Guitar: Course Introduction

NOTE: This is not a how-to-play-guitar course. This course is for guitar players who would like to learn about basic music theory. It is designed so that novice guitarists can do the activities, while those with plenty of playing experience but no formal theory may still find them useful. It is assumed that you can already play the guitar, at least a little. Teachers, mammals, and videos that can demonstrate the basics of guitar playing are easy to find; for example, I have provided free beginning-guitar materials in a different course at this site. This theory course is a short, experimental learning by doing (Chapter 1) course, so the author would appreciate feedback. These courses will be refined and expanded in response to user feedback.

There is also a general introduction to the learning by doing courses (Chapter 1), but there is no need to read it if you are not interested. This introduction to the guitar theory course includes:

- What do you need to know before starting this course? (What you will need to begin the course; p. 8)
- Why is it useful for guitarists to know some basic music theory? (p. 12)
- What type of music theory is most useful for guitarists? (Section 2.3: Common Practice: The Music that Most Guitarists Play)
- What is common practice music? (Section 2.3: Common Practice: The Music that Most Guitarists Play)

2.1 What you will need for this course

This course takes a learning-by-doing approach to theory; in other words, it is doing the activities on your guitar that will help you understand the theory. Simply reading through the lessons will be about as useful as reading through a guitar lesson without actually doing the exercises. Every music theory concept is connected to a specific characteristic of musical sounds. A main goal of theory “lessons” is to get you to the point that you can recognize what it feels like and sounds like to play each concept. Once you can do that, you will be able to use the concept to help you do what you want to do as a guitar player. If you do not play the concepts for yourself, you will not develop that usable connection between the concepts and the sounds.

If a lesson features concepts that you are certain that you already understand and can use, feel free to skip that lesson! On the other hand, if you are finding a particular concept to be a bit elusive, mysterious,
or challenging, don’t be afraid to linger on that activity or lesson for a while, perhaps even making it part of your normal practice routine until you feel you really “get it.”

**What you will need to begin the course:**

- Ability to tune your guitar in standard (E A D G B E) tuning.
- Familiarity with generic music terms that are commonly used to discuss guitar music, such as note, beat, rhythm, melody, and chords.
- Familiarity with common guitar-playing terms such as open string, second fret, fingering, barre chord, chord progression, pluck, and strum.
- Ability to make sense of guitar fretboard diagrams (see Figure 2.1 (Two Styles of Fretboard Diagram)).
- Ability to play the chord progressions of a few songs, in any typical guitar genre you like, from folk to jazz to classic rock to metal to world beat. Regardless of genre, the songs must feature a melody accompanied by a chord progression. You do not have to be able to sing the melody, but you may find it helpful to be able to sing along. You can strum the chords, or use a simple picking pattern, or play something more complex, as long as you are aware of the individual chords as you play them.
- Ability to name the chords you play, using letter-based names such as “C” and “B flat” and “G7”.
- A way to take notes for yourself about the music you are studying. You can jot notes into your music or onto scraps of paper, but if you keep them all in a single notebook or folder, you can easily refer back to what you learned earlier about a piece, or check later in the course to see whether an earlier guess was in fact correct.
Two Styles of Fretboard Diagram

Figure 2.1: A fretboard diagram is a simplified picture of the neck of the guitar. Fingertips holding down strings are represented as black circles. In this course, solid black circles will be used to represent chords. If notes should be played one at a time in a specific order, numbers inside the circles represent the order. If only a few frets need to be shown, the fretboard will be shown vertically, like a standard chord diagram. If a larger portion of the neck needs to be shown, the diagram will be laid out left-to-right, so that the first fret is at the left rather than the top. This is essentially the same orientation a right-handed guitarist will get by tilting the guitar back to look at the fretboard while playing.

What you will NOT need:

- You will not be expected to read or learn a specific kind of notation (Figure 2.3: Other Ways to Notate Music for Guitar), other than chord names (Figure 2.2: Chord-Name Notation). For those who can read either tablature or common notation, those notations will be included when useful. (If you can read tablature and want to learn to read common notation, please see Common Notation for Guitar Tablature Readers).
- You do not need to know a large number of songs, or to have any of them memorized.

\(^3\text{Common Notation for Guitar Tablature Readers} <\text{http://cnx.org/content/col12059/latest}/>\)

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• You do not need to be able to play the melody of the songs, or know the names of specific notes.
• You do not need to know a lot of chords. Being able to play 5 or 6 different chords is enough to get started. Understanding the theory can make it easier to play more pieces when you don’t know a lot of chords, and can also help you learn and remember new chords.
• You do not need to be able to play in any specific style; the course will help you start thinking about how to play in different styles.
• You do not need to be able to play anything very smoothly and quickly, as in a performance. You only need to be able to play it well enough to analyze what you are doing and hear what it sounds like (for example, playing a minor chord well enough that you can hear what a minor chord sounds like, as opposed to a major chord).
• You probably will not need a guitar teacher, although you certainly can ask for help with learning theory if you have a guitar teacher. If you do not have a teacher but you know that discussing concepts helps you understand them, I recommend finding another guitarist who would like to learn more about music theory and getting together regularly with this “learning buddy” to discuss and play through the concepts.
Chord-Name Notation

Figure 2.2: Any method of writing music down can be called a notation. Chord symbol notation, which is commonly used in nearly all genres of guitar music, may use letter names (for example C or G7) or chord function (for example IV or V7). This course will introduce and explain chord function, but it is expected that you already know the letter names of the chords you use.
Other Ways to Notate Music for Guitar

Common Notation

- Tells you which specific notes to play
- Defines notes by pitch (how high or low they sound)
- Indicates precise rhythms

Guitar Tablature

- Tells you which specific notes to play
- Defines notes by where they are played (which string and fret)
- Usually does not indicate precise rhythms

Figure 2.3: Guitar tablature and/or common notation will be included, alongside fretboard diagrams, only when they are particularly relevant. You will not need to be able to read these notations to learn the concepts.

2.2 The Guitarist as Music Arranger

Why is it useful for guitarists to know some basic music theory? The purpose of music theory is to explain the “rules” for creating music that sounds like a good example of a particular style, and to give musicians a vocabulary for thinking about and talking about these rules. The rules are NOT prescriptive laws that cannot be broken; they are only descriptive guidelines based on what people have noticed about the way the music they like is organized.

Arranging music is the art of treating a piece of music as an outline to be filled in, rather than as a series of sounds to be reproduced as closely as possible. If you are playing a written version of a piece note-for-note, you are not arranging it. If you are imitating a recorded version, as much as possible note-for-note, you are not arranging it. If you are adding your own riffs or making your own choices regarding picking or strumming patterns, purposely changing the key or the rhythms, or deciding which parts should be played on guitar and which on other instruments, then you are arranging the music. Guitarists do a lot of music arranging, often without realizing it. Your arrangements as a guitarist may be very similar to versions played by others, or may be very different. What makes them arrangements is that you are treating pieces not as a formula for playing notes in a specific order, but as a form to be filled in with notes that you feel fit the style and the chord progression. This gives you some leeway to be creative and express yourself, even when you are "covering" music composed by others. It also gives you knowledge and experience that you will find useful if you decide you want to create your own solos and improvisations, or effective arrangements of
your own **original compositions**.

**Note:** If you perform in public or distribute recordings, you should be aware of the copyright rules regarding music arranging. This is not meant to be legal advice, but as a general rule, if the melody is recognizable as a melody that someone else has copyrighted, or if you use clips of someone else's copyrighted recording, then you are probably breaking U. S. and international copyright laws. However, it is fine to use the chord progressions and rhythms from a copyrighted piece, either in your own recorded clips, or to support your own, original melody.

Music theory can give you a more systematic approach (as opposed to just guessing) to activities such as arranging music, creating compelling melodies and strong chord progressions, and matching melodies to chord progressions. The more you understand the rules, the more flexible and creative you can be while still making music that sounds good in the styles that you like. Many highly experienced guitarists eventually learn to understand the rules intuitively, **by ear**, and there is nothing wrong with that approach, but studying the theory can help you learn the rules faster and with a better capability for writing down your ideas and discussing them with other musicians. It can also help you improve your ear, as you learn how to name and listen for specific characteristics in the music.

This course is about helping you to be your own arranger-for-guitar, so most of the activities do not have right-or-wrong answers. Instead they rely on you to decide for yourself whether your "answer" is something that suits your abilities and tastes and is a good example of the style that you are aiming for. If you are not certain whether what you are playing "sounds right" in the sense of being a good example of the theoretical concept, then it may be best to work through the course with a guitar teacher, a music theory teacher, a more experienced musician, or even simply a friend who is also trying to learn about music theory.

**Activity 1: Listen for "Arranging"**

1. Choose any piece that features guitar, that you can find recordings of, made by two different artists or groups.
2. Listen carefully to both recordings, one after the other. You are listening for any differences in the rhythms, instruments, notes, or chords, not in more superficial differences such as how fast or loud the piece is.
3. How similar or different are the versions in the two recordings? How similar or different are the guitar parts?
4. Do the recordings seem to be as identical as possible, or do they seem to be purposely different arrangements?
5. If you found the versions to be purposely very different, see whether you can find an example of two recordings that sound purposely alike. If you found the versions to be purposely alike, see whether you can find an example of two songs that sound like purposely different arrangements.

### 2.3 Common Practice: The Music that Most Guitarists Play

If two pieces of music sound very different, it is because they are following different rules (for example, taking different approaches to rhythm, melody, chords, even tuning). Some styles and genres use "rules" and approaches that are similar enough that they use similar terms and concepts. Others do not; consider for example the differences between American guitar and Indian sitar music. So there is not just one music theory, but many versions of music theory to go along with the many different music traditions that are out there.

Guitar is used in many different kinds of music, including European classical, American rock, Latin jazz, African fusion, and Asian pop. Although there are plenty of differences between these kinds of music, there are also some deep similarities that make guitar a good instrument for all of them. One of the most important similarities is that, at the most basic level, they follow similar rules, including being organized around progressions of chords. The relevant music theory can be called **Western** (since the sound, and the rules describing it, first developed in Western Europe after the middle ages), or **common practice**.

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Although "Western" is the more widespread term, the term "common practice" is a better description of the music you will look at in this course. There is plenty of Western European music (such as 10th-century chant, and a lot of 20th-century orchestral music) that does not follow common-practice rules. On the other hand, common practice harmony is not only common in guitar music from all over the world, but it is also one of the main things that these different styles of music usually have in common with each other.

Common-practice music theory is traditionally taught using piano. This gives pianists a major advantage over other musicians, because harmony is so fundamental to the music, and its concepts are difficult to "get" if you can’t experiment with them for yourself. It is easier to visualize, play, and explore harmony using a piano keyboard than it is using, for example, a trombone or flute. However, guitar can also easily be used to explore, hear, and understand harmony; and a guitar fretboard, like a piano keyboard, can be used to help picture the concepts. Guitar is not normally used to teach theory, probably because guitar is not traditionally associated with formal music education. This experimental course uses guitar-based illustrations and activities, instead of the traditional piano-based theory explanations. The idea is that guitarists, even if they choose an informal approach to learning their instrument, can find the theory useful for musical activities such as interpreting chord symbols, choosing the best chords to accompany a song, improvising guitar parts, writing parts for other instruments, arranging favorite pieces for guitar, or using the guitar to help them compose their own music.
Chapter 3

Theory for Guitar 1: Repetition in Music and the Guitar as a “Rhythm Instrument”¹

NOTE: This module is part of Common Notation for Guitar Tablature Readers², a learning by doing (Chapter 1) course intended for guitar players who would like to learn some music theory without also being required to learn common notation. It is a short experimental course that will be refined and expanded if there is sufficient user interest and feedback.

This lesson discusses:

- How does repetition help create good music? (Section 3.1: Repetition in Music)
- How do rhythmic repetitions create beat, meter, and measures or bars? (Section 3.2: Beats and Meter)
- When is a guitar a “rhythm instrument”? (Section 3.3: Guitar as Rhythm Instrument)

3.1 Repetition in Music

What is the main difference between noise and music? There are many good ways to answer this question, but one way that is generally useful is that noise is random sounds that have no human-communication meanings. (Some sounds can have other types of meaning, for example bird calls or the sounds that “mean” that your car’s engine is having problems.) Music is sound that is organized by people on purpose, to communicate something through the effects of the sounds on the listeners (as opposed to through language or coded meanings). Musical meanings can of course be combined with language meanings, as they are in songs.

Music may be trying to communicate anything from a mood to a dance beat to a story. The success of the communication – whether the listener “gets” the music – depends in part on whether the listener is familiar with the style and genre of the music and interested in its meanings. But it also depends on whether the musicians manage to use the conventions of the style and genre to make the organization – and meaning – of the sounds clearly audible to listeners. Many of the terms and concepts that musicians use to discuss what they do relate to specific aspects or elements of the music that are purposely repeated, helping to make the music understandable and enjoyable to listeners.

Activity 1: Listen for Repetition

1. Choose a favorite recording of a favorite song that features guitar.

¹This content is available online at <http://cnx.org/content/m62603/1.2/>.
²Common Notation for Guitar Tablature Readers <http://cnx.org/content/col12059/latest/>

Available for free at Connexions <http://cnx.org/content/col12060/1.4>
2. With pen and paper handy, listen to the entire recording, noticing as many different repeated elements that the guitar creates as you can. These might be, for example, a repeated chord progression, a strummed rhythm that is part of the basic ‘groove’ of the piece, or a riff that occurs after some of the vocal lines.

3. Using whatever notation, shorthand, or terms you like (for example, “sliding riff” or “da-da-dum rhythm”), make a note to yourself of each repeated element that you notice. You can listen to the song more than once if you like.

4. Arrange the repetitions that you noticed into categories that make sense to you, for example “chords” or “riffs” or “rhythms.”

5. What types of repetitions were easiest for you to notice? Might there have been categories of repetitions that you had particular difficulty hearing or describing? Did you hear any repetitions that were variations rather than exact repetitions?

6. Would you describe any of the repeated elements (perhaps a favorite riff) as one of the main reasons you like that recording of that song? Would you describe any of them as typical of the piece’s style or genre?

Activity 2: Repetitions in your guitar music

1. Choose any song you know how to play.
2. Play through it, noticing any repeated elements.
3. Make a categorized list similar to the one in Activity 1.
4. How are the lists similar, and how are they different? Are some types of repetitions easier to notice when playing? Are some easier to notice when listening?
5. If possible, listen to a favorite recording of the piece. Are there any repeated guitar elements that you particularly like in the recording that are not included in your performance? Would it be possible for you to include some version of them when you play the piece? Are there any repeated elements that are created by some other instrument that you particularly like and might be able to imitate with your guitar?

3.2 Beats and Meter

In nearly all genres and styles that commonly use guitar, one of the most common ways of organizing the music is with repetition in the rhythm. At the most basic level, there is usually a steady beat that is created by repeating sounds (such as drum hits or guitar strums) at very regular intervals. The tempo of a piece describes how far apart the beats are. When beats are close together, a piece has a fast tempo; when they are further apart, it has a slower tempo.

At the next level of complexity, some beats are emphasized more than others, creating a repetitive pattern of weaker and stronger pulses. These repeated patterns of heavier/stronger beats and lighter/weaker beats are called meter. For example, most pop and rock music styles feature alternating strong and weak beats that make it easy to divide the music audibly into 2 or 4 beats. Each section, of 2 or 4 beats of music, can be called a measure or a bar. (Some pieces feature a 3-beat bar, for example country waltz ballads.)

IMPORTANT: For many pieces, it can be difficult to decide by ear whether a bar or measure is 2 or 4 beats. It actually does not matter much! It could be written down, and read, equally well using measures of 2 beats or 4 beats; the 4-beat bar would simply be equal to two of the 2-beat bars. In this course, I will try to use the more formal word “measure” when discussing written versions of the music, in which someone has decided which one to use, and will use the less formal word “bar” to discuss the meter that you hear/decide by ear.
Activity 3: Listen for meter

1. Choose a favorite recording of a favorite song.
2. Listen to the recording, paying close attention to the beat. It may help to tap your foot, nod your head, or otherwise “feel the beat” with your body. Would you describe the tempo as fast or slow?
3. Listen for a repeated pattern of heavier/stronger and lighter/weaker beats. If it is difficult to hear the pattern, again try to feel it with your body, for example by clapping only on the beats that feel most important.
4. Would you say there is a strong beat once every two beats? Three? Four?
CHAPTER 3. THEORY FOR GUITAR 1: REPEITION IN MUSIC AND THE GUITAR AS A "RHYTHM INSTRUMENT"

5. Try to find at least one recording from the Exercise (Exercise 3.1: Activity 3, Step 5) below and repeat steps 1-6 using the recording. For this step, you can check your answers against the hidden "solution."

Exercise 3.1: Activity 3, Step 5
(Solution on p. 21.)

1. Angie (Rolling Stones)
2. Norwegian Wood (Beatles)
3. We Will Rock You (Queen)
4. Try Me (Marley)
5. Back in Black (AC/DC)
6. Blue Dress (Depeche Mode)

Activity 4: Meter in your music

1. Choose 3 or 4 songs that you are very comfortable playing and that you believe may have different meters.
2. For each one, play through the song, trying to simultaneously listen for or feel the stronger and weaker beats.
3. Try to determine the pattern of weaker and stronger beats that you are playing. If this is difficult, any of the following may help: tap your foot or nod your head; exaggerate what you are playing (i.e. purposefully strum even louder on a strong beat); use a simpler, easier, or more regular picking or strumming pattern; count the meter out loud while you play your picking or strumming pattern (e.g. "ONE-two-ONE-two..."); or analyze your basic picking or strumming pattern to determine how many beats it fills.
4. If you still find it difficult to play and consciously feel/hear the meter at the same time (this is a common difficulty!), try recording yourself and listening for the meter as you did in Activity 3. Or you may be able to remember ("hear in your head") what the song sounds like, while trying to clap or count the meter. (If you must, you can listen to a recording of someone else playing it instead, but for this activity it is preferable to be able to link what you are doing as a guitarist to the meter of the piece.)
5. Did the songs actually have different meters, or were they all essentially the same meter with a different tempo or different picking or strumming pattern?

NOTE: If you feel that, for any of the songs you like to play, you are not persuasively creating the beat and meter, practice those songs regularly with the aim of improving this aspect of your playing. Basic rhythm is one of the most obvious aspects of performance for listeners, so improvements in this area are particularly worthwhile.

1. If a steady beat is a problem, you may find it helpful to practice with a metronome, to play along with a recording, to practice at a slower tempo, or to simplify fingerings or riffs so that it is easier to keep the beat.
2. If you feel that deliberately varying the tempo, for example by slowing down slightly in certain places, would make the song more expressive and interesting, you can experiment with that.
3. If you want a stronger, or a more subtle, or more stylistic expression of the meter, try imitating the way the beat is created in a favorite recording, or try experimenting with different strumming or picking patterns.

3.3 Guitar as Rhythm Instrument

Did the picking or strumming patterns you used in Activity 4 simply play strong and weak beats, or did they include more complex rhythms? At the next level of complexity beyond meter, most pieces include

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more complex rhythms that are not simply repeated strong and weak pulses. They are instead specific rhythms (which can be called simply rhythms - as opposed to "the beat" - or rhythmic ideas or motifs or gestures) that help make the piece interesting.

Most pieces include complex rhythmic ideas/gestures/motifs that show up in riffs and melodies and are only repeated occasionally (or not at all), to make the piece more rhythmically interesting. But most also include rhythmic ideas that are repeated more or less continuously, to create the beat or groove of the piece. This creates a background that helps listeners make sense of everything else that happens in the music, similar to the way the background in a painting helps create perspective and meaning. If the sense of rhythmic background is missing or jumbled, listeners may have trouble making any sense at all of the music. Any instrument can create a sense of beat and meter, but it is easier to do with some instruments than others. Guitars are particularly useful, because their picking or strumming patterns can create the harmony background and the rhythmic background at the same time. When it is used in this way, the guitar may be called a rhythm instrument. If several instruments are being used as rhythm instruments in a piece, for example drum kit, bass, and rhythm guitar, they may be called the rhythm section.

Activity 5: The rhythmic ideas that you play

- Play through one of the picking or strumming patterns that you used in Activity 4.
- Can you express the basic rhythm that gets repeated in this pattern, for example by clapping the rhythm with your hands?
- Can you play any other picking or strumming patterns that use the exact same rhythm? (See the examples (Example 3.1) below.)
- Can you play any other picking or strumming patterns that use a rhythm that is similar but not exactly the same?
- Can you play any picking or strumming patterns that use a very different rhythm?
- For any of the picking or strumming patterns that you can play, can you introduce some rhythmic variation while keeping the beat steady? For example, can you interrupt the pattern with a favorite riff while keeping the beat steady, or use a slightly different pattern once every 4 bars?
- Do you have some patterns that repeat every 2 beats, and others that repeat every 3 beats, or every 4 or 8 beats? Do you have some 4-beat patterns that work well with a fast tempo and others with a slow tempo? Do you have 2-beat and 3-beat patterns for both fast and slow tempos?
- If it seems to you that you have a very limited choice of rhythms to work with, choose at least one new rhythm (perhaps from a favorite recording), work on developing a comfortable way to strum or pick that rhythm, and practice it until you can use it with a favorite song.

Example 3.1
Here are five examples of strumming and picking patterns. Notice that 1A and 1B do not use the same pattern of plucking and strumming, yet they use exactly the same rhythm; the same is true of 2A and 2B. Also notice that the 1 patterns and 2 patterns are quite similar to each other, although not exactly the same. The pattern in example 3 is more different rhythmically from all of the others.

This media object is an audio file. Please view or download it at

<pattern-1A.mp3>

Figure 3.2: Example 1A: strumming pattern with rhythm 1
CHAPTER 3. THEORY FOR GUITAR 1: REPETITION IN MUSIC AND THE GUITAR AS A "RHYTHM INSTRUMENT"

This media object is an audio file. Please view or download it at
<pattern-1B.mp3>

Figure 3.3: Example 1B: picking pattern with rhythm 1

This media object is an audio file. Please view or download it at
<pattern-2A.mp3>

Figure 3.4: Example 2A: strumming pattern with rhythm 2

This media object is an audio file. Please view or download it at
<pattern-2B.mp3>

Figure 3.5: Example 2B: bass-pluck-strum pattern with rhythm 2

This media object is an audio file. Please view or download it at
<pattern-3.mp3>

Figure 3.6: Example 3: Strumming pattern with rhythm 3

NOTE: In general, recording yourself and listening to the recording is a great way to decide what you need to work on to become a better guitarist. If you don’t like the idea of others listening to the recordings, trash them after you listen to them. Also, make sure to listen with a constructive critique attitude, not looking to judge the performance as “good” or “bad” so much as to determine which elements of the performance need the most attention, and what might be done to improve them.

3"Providing Constructive Criticism in Music" <http://cnx.org/content/m43427/latest/>

Available for free at Connexions <http://cnx.org/content/col12060/1.4>
Solutions to Exercises in Chapter 3

Solution to Exercise 3.1 (p. 18)

1. in 4 (or 2)
2. in 3
3. in 2 (or 4)
4. in 4 (or 2)
5. in 2 (or 4)
6. in 3
Chapter 4

Theory for Guitar 2: Melodic Phrases and Chord Changes

NOTE: This module is part of Music Theory for Guitar\(^2\), a learning by doing (Chapter 1) course intended for guitar players who would like to learn some music theory without also being required to learn common notation. The author would appreciate feedback from users. It is a short experimental course that will be refined and expanded if there is sufficient user interest and feedback.

This lesson discusses:

- What is the difference between melody and harmony? (Section 4.1: Melodic Phrases)
- What is a line of music? (p. 24)
- What is a musical phrase? (p. 24)
- What does a chord name tell you (part I) (Section 4.2.1: Chord Names, Part I: Root and Quality) (Part II is in Lesson 5 (Chapter 7).)
- What are the most basic categories of chords? (p. 26)
- What is harmonic tempo or harmonic rhythm? (Section 4.2.2: Harmonic Tempo)

Lesson 1 (Chapter 3) introduced some of the ways that music is organized at the short time scale of single beats and bars (Chapter 3). Music in most guitar genres tends to be basically a melody in the foreground (where most listeners focus their attention) set in a rhythm-and-harmony background or accompaniment. As discussed in Lesson 1, the rhythm of this background tends to be organized into repetitions at the short time scale of beats and bars. At a medium time scale, the melody is organized into phrases and the harmony of the accompaniment is organized into chord changes. These longer-lasting musical elements may be repeated exactly, but to keep the music interesting they are often used as variations. For example, the beginning of a phrase may be the same as an earlier phrase, while the end is different; or the same chords may be used but in a different order.

4.1 Melodic Phrases

Harmony consists of notes that are understood in terms of a notes-sounding-at-the-same-time relationship. Sometimes the notes are actually heard at (basically) the same time, for example when a chord is strummed on the guitar. At other times the sounds only overlap a little, for example when the notes of a chord are plucked separately using a picking pattern. Even if the sounds of individual notes don’t overlap at all, it is

\(^1\)This content is available online at \(<\text{http://cnx.org/content/m62669/1.2/}>\).

\(^2\)Music Theory for Guitar \(<\text{http://cnx.org/content/col12060/latest/}>\).

Available for free at Connexions \(<\text{http://cnx.org/content/col12060/1.4}>\)
still their harmonic, notes-at-the-same-time, relationship, that is important. Listeners hear and understand them mainly as part of the harmony.

A line of music is also heard and understood as notes that belong together, but unlike harmony, the notes are understood as happening in a specific order, one after the other in the flow of time. This ordered line stands out as something that can be heard above the background of the harmony, much as a person who is talking to you can be heard above the background of voices talking in a cafe. The most prominent line—the one that is easiest to follow—is the melody. Some pieces may have other noticeable lines, for example a bass line (an audible line made up of the lowest notes), or a line performed by specific instruments or singers (for example, the trumpet line or the alto line).

**Activity 1: Harmony and Melody**

1. Choose any chord to play.
2. Play the chord all at once, so that all of the notes start and end, as much as possible, at the same time. Can you do this in different ways, for example, using different types of strumming techniques (such as an upward strum and a downward strum), or by plucking all of the notes at the same time?
3. Can you play the chord by playing the notes individually, for example using a favorite picking pattern? Can you switch to a different picking pattern that plays the notes in a different order? How many different ways can you play this same chord by changing the order of the notes?
4. Now choose a different chord and repeat steps 2 and 3. Notice the difference between the sound of a different chord and the sound of the same chord played differently.
5. In Lesson 1 we saw that one of the important aspects of playing chords on a “rhythm” instrument is to play them using constant repetition, so that the beat and meter are also created. In this step, choose any chord, but use the chord to play something that sounds like part of a melody, rather than like part of a chord. You can do this both by playing the notes using a rhythm that is not constantly repeating, or in an order that is not constantly repeating. You can make up your own melodic idea, or try to play by ear part of a simple chord-based melody such as “Taps” or “Reveille” (or any other bugle tune).

This media object is an audio file. Please view or download it at <taps.wav>

**Figure 4.1:** "Taps is an example of an entire tune that can be played using only the notes in a single chord.

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**Note:** If you found your strumming and picking choices to be very limited, adding some new picking patterns or strumming techniques to your daily practice will increase your flexibility as a guitarist. Choose a favorite song that is easy for you to play, and practice it using any picking or strumming pattern (perhaps from a guitar manual or by listening to other guitarists) that you would like to learn.

Melodic lines, bass lines, and other lines tend to include a lot of variation and newness; that is one way they capture your attention. However, they usually also include plenty of both obvious and subtle repetition, to help keep the piece easy to hear and understand. You may have noticed in Activity 1 that a good way to make a group of notes sound like a melody is to add pauses, moments when there are no new notes. The pauses break up the melody into sections called phrases. Just as a phrase in language is a series of words that creates an idea and is often followed by a short pause (indicated by a comma or period), a phrase in music is a series of notes that creates a musical idea and is often followed by a short pause. In fact, it is very common in songs that the phrases in the melody line up with phrases or sentences in the lyrics.

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**Activity 2: Melodic Phrases**

1. Listen to a recording of a favorite song, or sing a favorite song while playing guitar.
2. Choose one verse or one chorus of the song. Write down the lyrics, or find a written version of the lyrics.
3. Play that section of the song again, listening for pauses in the melody and marking them in the lyrics. (You can play it multiple times, if needed.)
4. How many melodic phrases does the section have? How well do the melodic phrases line up with phrases or sentences in the lyrics? If there are places where the phrases do not line up with each other, does that create any interesting effects on the music or the lyrics?
5. Do any of the melodic phrases seem to be exactly the same as other phrases in that section? Do any of them seem to be nearly the same as each other? Do any seem to be slightly the same? What aspects of them stay the same, and what is different? How much of the melody would you say is repetitive, and how much of it is variation and newness?
6. Play through the song again, listening for the beat and meter as you did in Lesson 1. How many beats are in each bar? (If you have written music, it is OK to look at it for clues, or you can decide for yourself, by ear.)
7. Now play through your verse or chorus again, noticing how long each phrase (including the pause) lasts in the music. How many bars does each melodic phrase take? Do all of the phrases take up the same number of bars, or do some last a longer or shorter time than others? How much of the time is taken by the pauses? (For example, if a phrase takes 4 bars, does the pause last for an entire bar, or only a couple of beats?) Do other interesting things happen during the melodic pauses, such as instrumental riffs?

**NOTE:** If you like adding riffs to pieces, or want to start trying to add riffs, you may want to choose a piece that has long pauses between melodic phrases and practice adding an appropriate riff during the pauses. You can imitate a riff from a recording, choose one from a list of riffs in the appropriate style, or make up your own. If you like improvising or composing melodies, then during your regular practice/composition time you may want to try purposely adding regular pauses to your melodies, to create easy-to-hear phrases, and adding exact or varying repetitions, to make your melodies easier to understand. You can even borrow the phrase form (for example 4 phrases that each last 4 bars, including one-bar pauses) and repetition pattern of a favorite piece, while playing a completely different set of notes to create your own melody.

### 4.2 Chord Changes

#### 4.2.1 Chord Names, Part I: Root and Quality

Like the rhythm (Section 3.3: Guitar as Rhythm Instrument) elements of the background, the harmony provides audible cues that are crucial for helping listeners understand and enjoy more obvious elements such as the melody. One of the most important ways that guitar music is organized is by repeating-and-varying the harmony. Most songs use only a small number of different chords, changing from one chord to another either in the same order (exact repetition) or in different order (variation).

Sometimes the chords themselves are variations of each other. For example, C, C7, CM7, and C9 chords are all variations of the C major chord. They all include the notes of a C major chord, but some add an extra note or two, so that the resulting harmony is noticeably different-but-similar. Since they use similar sets of notes, substituting one of these chords for another is one way that an experienced guitarist might "arrange" music. For example, a CM7 might be used instead of a C, to give a slightly jazzer feeling to the harmony. You can also use these kinds of substitutions to simplify chord progressions if needed; for example, if you can’t remember how to play a C6, a plain C chord will work!

Two chords can be considered variations of the same chord only if they have the same root note and the same quality. Every chord has a root note that the rest of the chord is built on. The letter name of the...
chord (such as C or G), along with any sharps or flats that immediately follow it, name the root of the chord. For example, C and C# chords have different roots. In fact, they don’t include any of the same notes (as you can verify by playing both chords for yourself). You cannot substitute one for the other, but you could substitute a C# for a C#7 chord, because they have the same root and the same quality. (By the way, don’t worry for now about what terms like “sharp” and “major” and “root” actually mean. We will explore those terms later.)

The other indication that two chords share most of their notes is that they have the same basic quality. This simply means that the other main notes of the chord are the same, which makes the chords audibly "similar." (Again, you can see and hear this for yourself, for example by playing a C and a C7 chord.) There are five chord qualities that are found in many kinds of guitar music:

- **Major chords** – are so common in most guitar genres that if there is no indication a chord is major, minor, etc., you can usually assume that it is a major chord. (The one important exception to this is power chords in some genres.) If needed, “major” “maj.” or simply a capital “M” may be used.
- **Minor chords** – will include some indication such as “minor” or “min.” or a small “m” or minus sign.
- **Power chords** – A “5” in the chord name is the most common way to indicate power chords, but in a few guitar genres, especially those featuring distortion of electric guitar sounds, power chords are so common that no indication of chord quality means “power chord.”
- **Augmented chords** – may be indicated as “aug” or using a plus sign.
- **Diminished chords** – may be indicated as “dim” or using a small circle.

<table>
<thead>
<tr>
<th>Notating Chord Quality</th>
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<tbody>
<tr>
<td><strong>Major Chords</strong></td>
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<tr>
<td>C</td>
</tr>
<tr>
<td>C△</td>
</tr>
<tr>
<td>CM</td>
</tr>
<tr>
<td>C maj.</td>
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</tbody>
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Figure 4.2: Here are the most common symbols used to indicate the basic quality of guitar chords. Additional information in the symbol (such as 7, sus4, /G) does not affect the basic quality of the chord.

Chord names and symbols:

- Always begin by naming the root of the chord.
- Indicate or imply the chord quality, immediately following the root name. If there is no indication, a major chord or power chord is implied, depending on the music style.
Activity 3: Types of Chords in Your Music

1. Choose a song that you like to play that you feel uses a lot of different chords.
2. Make a list of the chords that you use to accompany the song, listing each chord only once. (For example, list “C7” only once, no matter how many times you play a C7.)
3. How many different chords do you use to accompany the song?
4. Categorize all of the chords in your list. For example, include all major-type chords in a "major chords" category. Unless you are playing music that does not use common-practice harmony, all of the chords should belong to one of the categories listed above. How many different categories of chords do you use? (Note that it is not uncommon for a song to include only major chords, only power chords, or only minor chords.)
5. Are any of the chords variations of the same basic chord? In other words, do they use the same note name (such as “C” or “Bb” or “F#”) and also belong to the same category?
6. Try experimenting with substituting variations for some of the chords. (For example, try playing a “B7” instead of a “B” chord, or a “Dm” instead of a Dm7.”) Substituting chords that are already used elsewhere in the song is a good bet, but you can try any appropriate chord that you know and like—just remember to use only chords with the same root and same quality. Can you find substitutions that you like? Which do not sound good to you? Are there any that seem pretty neutral?
7. Try playing all of the chords in the song using the most basic version of chord. In other words, ignore all of the added notes (such as 7, 6, or sus4) and voicing information (such as /G) and play every chord as a simple major, minor, augmented, diminished, or power chord. (Note that this technique can be very useful when you need a song with an easy or simple chord progression!)
8. Try to find at least one substitution that you like enough to keep (either because you like the sound better or because it makes the song easier for you to play). If you can’t find one, choose another song that you feel is either “boring” or “difficult to play” chord-wise, and repeat this activity with this song.

Example 4.1
Here is an example of how to do Activity 3, using the bridge and final verse (which include all the chords used in the entire song) of "Til there was You." Each chord used is listed only once; for example, "Fm" is listed only once, although the excerpt includes 3 F chords. However, any variation in the chord, such as FM7, is also listed.

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CHAPTER 4. THEORY FOR GUITAR 2: MELODIC PHRASES AND CHORD CHANGES

Chord Analysis

Bridge: And there was music and there were wonderful roses they tell me

Gm        G7        C        C+
In sweet fragrant meadows of dawn and dew.

Final Verse: There was love all around but I never heard it singing

F        Am        Gm7        Gm4        C7        F        Gm7        FM7
No I never heard it at all, till there was you.

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<thead>
<tr>
<th>Chord root</th>
<th>Major</th>
<th>Minor</th>
<th>Augmented</th>
<th>Diminished</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B♭</td>
<td>B♭</td>
<td></td>
<td></td>
<td>F♯dim7</td>
</tr>
<tr>
<td>C</td>
<td>C, C7</td>
<td></td>
<td>C+</td>
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</tr>
<tr>
<td>D</td>
<td>D7-9/F♯</td>
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<tr>
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<tr>
<td>G</td>
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<td>G7, Gm7</td>
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<tr>
<td>G♯</td>
<td></td>
<td>G♯m</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.3

Notice that chords are only considered variations of the "same" basic chord if they have the same root AND the same basic quality. G minor and G sharp minor are not built on the same basic chord, and are not interchangeable; neither are G minor and G7, because G7 is basically a major chord.

On the other hand, chords that are variations of the same basic chord are reasonably interchangeable. For example, if you do not know how to play a D7-9 over F sharp, a simple D7 would work. Switching the C and C7 would also be OK. Turning the progression Am to G sharp minor to G minor into a sequence of minor seventh chords would also work, making the accompaniment sound even jazzier.

You can try making these substitutions in the chord sequence to hear for yourself how they change the sound of the progression, or try the same process on the piece that you choose for Activity 3.

Available for free at Connexions <http://cnx.org/content/col12060/1.4>
4.2.2 Harmonic Tempo

The harmonic tempo of a piece refers to how often chord changes happen. The chord may change almost every beat, for example, or only at the beginning of bars. In guitar music, chord changes often happen at the beginning of bars. In fact, the beat when a chord changes tends to feel emphasized, so when chords change regularly every 2 beats or every 4 beats, that can make the meter feel strongly in 2 or 4. Most songs have a basic harmonic tempo with some variation, for example changing chords at the beginning of most bars but occasionally holding the same chord for two or four bars. Harmonic tempo can also be called harmonic rhythm.

Example 4.2
A basic 12-bar blues progression provides a real-music example of harmonic tempo. Chord changes happen at the beginnings of bars, to help strengthen the meter, but they do not happen at the beginning of every bar. The first four bars are all the same chord. The second four bars are divided: two bars of one chord and two of another. The final four bars are divided into one bar, one bar, and two bars. The basic harmonic tempo appears to be 2 bars, with one instance of "longer" (4 bars of the same chord in the first line) nicely balanced by one instance of "shorter" (2 bars with two different chords) in the last line).

Basic 12-bar Blues

- C7 - C7 - C7 - C7 -
- F7 - F7 - C7 - C7 -
- G7 - F7 - C7 - C7 -

Figure 4.4: A 12-bar blues has a basic tendency to change chords every 2 bars, although there is some variation (one instance of the same chord for 4 bars, and one of chord changes every bar). This contributes to a more laid-back harmonic feeling than pieces that change chords every beat or every bar.

The variation in how often the chords change adds interest to the chord progression. The fact that the changes happen more often towards the end of the verse creates the feeling that the harmony is getting more intense. However, there is also a sense of an underlying tempo to the chord changes. Much good music has a very strict harmonic tempo, but much good music has a lot of variation, which can make it difficult to treat harmonic tempo as a question with one "correct" answer. Deciding on the harmonic tempo of a song is not as important as noting things such as how often the chords tend to change and how much variation there is. These are the clues that suggest "how to make good music in the style of this song."

Activity 4: Harmonic tempo

1. Choose any song you like to play.
2. Play through the piece, noting how often the chords change. Do you generally change chords every 2 beats, or 4 or 8?
3. Do you use a written version of the piece that includes bar lines? If so, do the chords, in general, change once a measure at the beginning of the measure? If not, would you say the basic meter of the piece has 2, 3, or 4 beats? Do you feel that the harmonic tempo is one-chord-per-bar, with most chord changes happening at the beginning of a bar?

Available for free at Connexions (<http://cnx.org/content/col12060/1.4>)
4. Are there places in the piece where chords change more often or less often than the general harmonic tempo? How much variation in harmonic tempo is there?

5. Do the chord changes ever involve moving from one chord directly to another that is based on the same chord (For example, a change from a G to a G7)? If so, do these types of changes seem to involve a faster- or slower-than-normal harmonic tempo? Try making a slight alteration to the harmonic tempo by choosing one of the chords and playing it for the entire time that you would normally play both chords - how does the alteration affect the sound?

6. Notice the picking or strumming pattern that you have chosen to play the piece. Does it have the same length as the harmonic tempo? In other words, if the chord changes every 4 beats, does your picking or strumming pattern also last for 4 beats? If not, is your pattern longer or shorter than the harmonic tempo? Try changing your pattern to match - or to deliberately not match - the harmonic tempo. Does this change make the piece easier or more difficult? More or less interesting? Does it seem to change the style or the "groove" of the piece?

7. If the harmonic tempo of the piece varies at all, do you use a different strumming or picking pattern when the chord changes are more frequent or less frequent? Would doing so make the piece more interesting or easier to play?

8. If there are spots where the chord does not change for several measures, do you add any riffs to keep things interesting? If not, can you do so? Can you make things more interesting by adding a chord change for example, playing 2 measures of C and 2 of C7 instead of 4 measures of C.

9. Try to find at least one alteration related to harmonic tempo that you would like to keep. If there are none, try this activity with a song that you feel is not working for you yet.

NOTE: One great way to train your ear as a guitarist is to practice listening for chord changes. When you listen to favorite pieces that feature guitar, try to hear/notice the chord changes. Once you can do that, can you tell when the harmony returns to a chord that was played previously? Can you hear any repeated sequences of chords? Once you can do that, can you guess which chords are being played and try to play the chords yourself, by ear? This type of ear training can help you become a much more proficient rhythm guitarist.
Chapter 5

Theory for Guitar 3: Form in Guitar Music

NOTE: This module is part of Music Theory for Guitar, a learning by doing (Chapter 1) course intended for guitar players who would like to learn some music theory without also being required to learn common notation. It is a short experimental course that will be refined and expanded if there is sufficient user interest and feedback.

This lesson discusses:

- What are the main types of sections in most guitar genres? (Guitar songs in a wide variety of genres tend to be built from the same types of sections; p. 31)
- What is the chorus or refrain? (Guitar songs in a wide variety of genres tend to be built from the same types of sections; p. 31)
- What is a verse? (Guitar songs in a wide variety of genres tend to be built from the same types of sections; p. 31)
- What is a bridge? (Guitar songs in a wide variety of genres tend to be built from the same types of sections; p. 31)
- What is the difference between an instrumental verse or chorus and a solo section? (Guitar songs in a wide variety of genres tend to be built from the same types of sections; p. 31)
- What are the intro and outro? (Guitar songs in a wide variety of genres tend to be built from the same types of sections; p. 31)

Lesson 1 (Chapter 3) introduced the importance of organization and repetition in creating music that “makes sense,” and focused on small-scale rhythmic repetitions that create beats and bars. Lesson 2 (Chapter 4) focused on the way that music is organized, using repetition and change, over slightly longer periods of time. Pieces are also organized (again, using repetition and change) over long time scales, including the organization of an entire song, or sometimes even "cycles" or "albums" of songs that are purposely presented in a certain order. The large-scale organization of music is often called its form.

Guitar songs in a wide variety of genres tend to be built from the same types of sections:

- **Refrain or chorus** – The refrain or chorus (the words are interchangeable), if there is one, is usually the easiest part of a song to recognize. In each repetition, the sung words are essentially the same, and the melody, chord progression, and so on, are also essentially the same. There may be small variations, such as adding an instrument or vocal line, to keep the repetitions interesting. Variations can include an **instrumental refrain** or chorus, in which the same melody is played by instrument(s) rather than by voice(s). Repeated refrains may have other types of sections in between them, or may not.
CHAPTER 5. THEORY FOR GUITAR 3: FORM IN GUITAR MUSIC

- **Verses** – Verses are repetitions that have essentially the same melody and same chord progression as each other, but different **lyrics** (sung words). In most (but not all) songs that have refrains and verses, the music (melody, chords, etc.) of the verse is different from the music of the refrain. Some pieces have an **instrumental verse**, which uses an instrument to play the melody of the verse, instead of sung words. Verses may have other types of sections in between them, or may follow immediately one after the other. Some songs are primarily made up of verses, with no refrain at all.

- **Solo** (over the refrain or verse chord progression) – A solo section typically repeats the chord progression of either the refrain or the verse, but features a new melody, rather than a repetition of the refrain or verse melody. The new melody may be improvised, memorized, or read.

- **Bridge** - If there are any bridges, they will always come after the main sections (verse and/or refrain) have been introduced, and will have a melody and chord progression that is different from the main sections. Bridges are typically shorter than the refrain or verse, sometimes very short. They sometimes features music similar to the intro or outro. They may feature an instrumental solo, or may include lyrics. There may be only one bridge; if there is more than one, they may be the same, or similar, or quite different.

- **Introduction** – or simply **intro**, refers to anything that happens in the music before the first sung verse and/or refrain. It may be part or all of an instrumental refrain or verse, but may also be something completely different. Intros and outros typically have no lyrics.

- **Coda** or outro – refers to anything that happens at the very end of the performance that cannot be labelled as part of a refrain or verse. Some codas are a repetition or variation of the intro. Many are very short, for example simply two or three chords after the end of the last verse.

*Not every song has every type of section.* Many feature only refrains and verses, with no bridge at all. Some have no refrain, consisting mainly of verses. Some have no intro, beginning immediately with a refrain or verse. Some have no outro, choosing for example to end decisively on the final chord of the chorus, or to use a repeat-and-fade ending. The presence of instrumental verses and solo sections depends, of course, on whether (and how many) skilled instrumentalists are available.

If you would like some examples of the various types of sections, find copies of some of the following songs that have simple and easy-to-hear forms. If you want to follow the analysis provided below to see how it represents what you are listening to, be sure to listen to the specific recordings suggested; in other recordings, the artists may have chosen to include different sections, or arrange the sections differently, changing the overall form. As a challenge, you can also try listening to other versions, to see whether you can spot differences in the form!

Available for free at Connexions (<http://cnx.org/content/col12060/1.4>)
**Figure 5.1**: Forms that basically alternate A and B sections are very common, particularly in songs that feature verses and a refrain.

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Available for free at Connexions <http://cnx.org/content/col12060/1.4>
Hey, Jude (Beatles, original 45 single version)

A  Verse 1  Hey, Jude, don't make it bad...
A  Verse 2  Hey Jude, don't be afraid....
B  Bridge 1  And any time you feel the pain....
A  Verse 3  Hey Jude, don't let me down....
B  Bridge 2  So let it out and let it in....
A  Verse 4  Hey Jude, don't make it bad....
C  Long coda  Better, better, better.... na na na....
Smoke on the Water (Deep Purple, Machine Head album version)

Figure 5.3: Some songs include instrumental intros, interludes, and/or outros, any of which can be short or long. Some songs include instrumental solos over the music for the verse or the refrain. Notice that when the music in a section is very much, but not exactly like, another section, it may be labeled in a way that allows you to discuss the different versions of the section. For example, here there are four distinct versions of the instrumental riff music, and the A’ version is used twice.

Activity 1: Listening for large-scale form

1. Listen to any favorite recording of a song that last less than five minutes.
2. As you listen, try to identify each main section of the form as it goes by.
3. Make an overall outline of the piece, similar to that in the examples above. You can listen to the piece repeatedly if needed.
4. With your outline in front of you, list the most obvious differences that signal to the listener the beginning of each section. Such signals might include, for example “singing starts,” or “guitar drops out” or “drum rhythm changes.”

Activity 2: Looking for large-scale form in written music

1. (Skip this activity if you never play from written music.)
2. Choose any song that you play and for which you have any type of written version. This can be in any notation, for example common notation, tablature, or lyrics with chord symbols.
3. Note whether and how large scale form is indicated in the notation. Are numbers used for verses? Are verses and refrains identified? Intros? Codas? Are any symbols (such as “repeat dots”) used to tell you to repeat an entire section or to go next to a coda or refrain?
4. Make an overall outline of the piece, similar to that in the examples above (Figure 5.1: American Pie (McCLean, American Pie album version)). (If you ever find it difficult to remember where to go next when you are reading a piece, you may find that creating this type of outline helps you to remember.)

Activity 3: Play large-scale form

1. Choose any two songs, in any genre or style, that you enjoy playing, and that you believe have different overall forms.
2. Make an overall outline of each one, similar to that in the examples above (Figure 5.1: American Pie (McCLean, American Pie album version)). Play through each song to make sure you have not left out any sections, such as a very short intro or bridge. Everything you play should belong to a named section.
3. Compare the two pieces to see how their forms differ, and how they are the same. (You may find that they are more alike in form than you thought.)
4. For each song, find and listen to a favorite recording of someone else performing it. Is the large-scale form exactly the same as your version? If not, try to alter your version to be more similar in form to the recording, even if you do not use the same melodies or riffs. For example, if you cannot imitate a trumpet-solo intro, create a different intro of about the same length.

Activity 4: Use form to guide arranging choices

1. Choose any song that you can play. This can be one of the songs you used in Activity 3, or a different one. If you are using a different one, make an overall outline of your version of the piece as you did in Activity 3.
2. Play through the entire piece, noticing any changes that are built into the music that indicate the beginning of each new section, for example “singing starts” or “harmonic tempo (p. 29) changes.”
3. Play through the piece again, noticing whether you use the guitar differently in different sections of the piece. For example, do you use a different picking pattern in the verse than in the chorus? Do you use a riff in the intro, bridge, and outro that you don’t use in the refrains or verses?
4. Are there any sections that don’t get distinguished from other sections at all? Can you think of an effective way to alter the way you play those sections to make them more distinctive? There are lots of possibilities, including large or small changes in your picking or strumming pattern, changes in tempo, adding riffs, changing riffs from one section to the next, or making changes in the harmonic tempo as you did in Activity 4 of Lesson 2 (Activity 4: Harmonic tempo, p. 29), and so on. Listening to a favorite recording may give you ideas to try.
5. If the song is already nicely varied from one section to another, try to think of a song you play that feels too monotonous and repeat the activity with that song.
Chapter 6

Theory for Guitar 4: Functional Harmony and Chord Progressions

NOTE: This module is part of Music Theory for Guitar\(^2\), a learning by doing (Chapter 1) course intended for guitar players who would like to learn some music theory without also being required to learn common notation. It is a short experimental course that will be refined and expanded if there is sufficient user interest and feedback.

This lesson discusses:

- What is functional harmony (Section 6.1: Functional Harmony)
- What makes a series of chord changes a progression? (Section 6.2: Major-Chord Progressions)

6.1 Functional Harmony

As described in the introduction (Chapter 2) to this course, most of the styles and genres of music that include guitars are within the common practice (Section 2.3: Common Practice: The Music that Most Guitarists Play) music tradition. One of the most basic and defining characteristics of common practice is functional harmony. When music has functional harmony, it is organized around chord progressions, or chord changes that create a sense that the music is going towards a particular final chord. This sense of progression toward an ending is created by the fact that the different chords have different functions in the music. For example, the C chords in a piece of music have a different function than G chords.

Listeners who are familiar with common practice genres subconsciously sense the progressions in their favorite pieces, even if they don’t “know anything” about music, so functional harmony is another main way that music is organized to help listeners understand it at this subconscious level. The sense of moving forward helps make the music interesting, and the sense that the music eventually arrives at the right place helps create satisfaction from listening to the entire piece. The function of chords is NOT defined by their chord names; a C chord can have a different function in one song than it does in another. **The function of a chord reflects its relationship to the strong-ending-chord of the progression.**

Functional harmony is so important to common practice music that it tends to affect other aspects, including form, melody, and even rhythm. Harmony also tends to be the most interesting and complex aspect of common practice music. It can also be very subtle; for example, works such as J. S. Bach’s unaccompanied sonatas can imply functional harmony even when no chords are being played. (In other words, if you wanted to write a guitar accompaniment for one of these sonatas, you would use the chords implied by the melodies.)

\(^1\)This content is available online at <http://cnx.org/content/m62704/1.2/>.
\(^2\)Music Theory for Guitar <http://cnx.org/content/col12060/latest/> Available for free at Connexions <http://cnx.org/content/col12060/1.4>
CHAPTER 6. THEORY FOR GUITAR 4: FUNCTIONAL HARMONY AND CHORD PROGRESSIONS

Activity 1: Changes that are Progressions towards an Ending Chord

1. Choose any short piece that you like to play that you like to play that has a strong ending chord, one that sounds like a satisfying, final ending to the chord progression (as opposed to a-leaves-you-hanging-chord or a repeat-and-fade ending).
2. As you did in Activity 3 of Lesson 2 (Activity 3: Types of Chords in Your Music, p. 27), make a list of the chords used, categorize each chord used as basically major, minor, power, augmented, or diminished, and make a note of any chords that are variations of the same basic chord.
3. Note the specific name of the “strong ending” chord (for example “G major” or “E minor”). Where else does that chord appear? Is it also the final chord of any of the main sections (Guitar songs in a wide variety of genres tend to be built from the same types of sections; p. 31) of the piece? Is it also the chord used at the end of any of the melodic phrases? Is it the first chord of the piece, or of any sections or phrases?
4. Repeat steps 2-4, using a different favorite piece. Do the pieces have the same or different ending-chords? Are the lists of chords used the same, or similar, or very different from each other?

6.2 Major-Chord Progressions

Some songs use variations of the same chords, for example using both G and G7 chords, while others stick to only one variation of each chord. Many songs use a lot of different chords (in other words, chords with different roots (p. 25) or different quality (p. 26)), while others use only a few different chords, but the songs you have been playing for this course probably include at least three chords that are not variations of each other, even if you are a beginner guitarist. **Chords with different roots or different quality have different functions in the chord progression.** One-chord and two-chord songs do exist, but they are unusual in common-practice genres, because it is hard to create a sense of progression using only one or two chords. Songs with only three or four different chords, on the other hand, are extremely common. Three different chords – in other words, three chord functions - is enough to create a strong sense of progression.

In most genres, the most common type of three-chord progression uses three different major chords. These three-major-chord pieces use only the easiest-to-hear chord functions so that listeners can “get into” the music quickly and sing along if they like. In order to study three-major-chord progressions in the next lesson, first choose a couple of pieces that you would like to play and study. If you want to use pieces you already know, try Activity 2A; if you’d rather use a list of suggested pieces to search for pieces you like and can play, try Activity 2B.

Activity 2A: Choose harmonically simple pieces that you know

1. Play through your favorite music, searching for pieces that include only chords with a basic major quality (p. 26). You can immediately set aside (for later) any piece that has a minor, augmented, diminished, or power chord in it (but remember that “sharp” or “flat” major chords are fine).
2. If a piece seems to only include major chords, make a list of all the different chords in the piece. You are looking for pieces that use only three different chords.
3. For now, also set aside music with chords with added notes, with one exception. If one (and only one) of the chords sometimes, or always, includes a simple “7”, that will work just fine. Note that this should not be a major or minor seventh; avoid “maj 7”, “min 7”, “M7” and “m7” chords. Only chords such as “A7”, “G7”, or “F#7” will do for now. Also, do not use pieces in which all the chords are 7 chords (for example many blues pieces).
4. Your list of the chords in each of your chosen pieces should include only major chords, with maybe a 7 added to one of them. If your repertory of favorite songs does not include anything you can use, you can try simplifying a favorite piece, for example by substituting a simple major chord for any added-note major chord. You can also look for something that you like among the list of three-chord songs below (Fifteen 3-chord songs, p. 39).
5. Try to find at least two pieces that each use only three different major chords, but that do not use the same list of chords. For example, one piece might use C, F and G, while another uses D, G and A. Once you have found two 3-chord songs in your repertory, go on to Lesson 5.

\[ \text{D A G D} \]
\[ \text{I see a bad moon rising} \]
\[ \text{A G D} \]
\[ \text{I see trouble on the way} \]
\[ \text{A G D} \]
\[ \text{List of chords used: D, A, G} \]
\[ \text{A G D} \]
\[ \text{I see earthquakes and lightning} \]
\[ \text{A G D} \]
\[ \text{I see bad times today.} \]

**Figure 6.1:** You are looking for songs that use only 3 major chords (or two major chords and a "7" chord).

---

**Activity 2B: Find harmonically simple pieces that you can play**

1. Choose a piece from the suggested three-chord-song list and look for a version of it that you can play.
2. Make a list of all of the different chords used in the version you have found.
3. Arrangers often make simple pieces more harmonically complex in order to make them more interesting. Check to make sure that you found a basic version that does not include any minor, augmented, diminished, or power chords. If there are added-note chords, check to see whether you can substitute a basic major chord instead.
4. Check to make sure that it includes only three different major chords.
5. It is OK if one of the chords sometimes or always includes a simple "7". Note that this should NOT be a major or minor seventh; avoid "maj. 7" "min 7" "M7" and "m7" chords. Only chords such as "B7", "G7", or "F#7" are OK. Also, do not use pieces in which all the chords are 7 chords (for example many blues pieces).
6. If the version you found is too complex, you can look for a simpler version of the song, or look for a different song.
7. Try to find at least two pieces that each use only three different major chords, but that do not use all the same chords. For example, one piece might use C, F and G, while another uses D, G and A. Practice the two pieces until you can play them about as well as other songs that you have already learned. Once you can play the two three-chord songs, you are ready to go on to Lesson 5.

The following list hints at the variety of genres that include songs that can be played using only three chords. (Note that you may find versions that include more chords, but it is relatively easy to find workable 3-chord versions of all of them.) If none of these are appealing, consider the general harmony/sound of the familiar songs and use that as a guideline to guess which of your favorite songs might also be 3-chord songs. You may also find it useful to search for other, more extensive lists of "three chord songs".

**Fifteen 3-chord songs**

- Amazing Grace (trad.)
- Bad Moon Rising (Credence Clearwater Revival)

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• Forever Young (Stewart)
• Happy Birthday to You (Hill)
• Hound Dog (Presley)
• I Still Haven’t Found What I’m Looking For (U2)
• Johnny B. Goode (Berry)
• Margaritaville (Buffett)
• Me and Bobby McGee (Joplin)
• Mr. Tambourine Man (Dylan)
• Surfin USA (Beach Boys)
• Sweet Home Alabama (Lynyrd Skynyrd)
• The Tide is High (Blondie)
• Twist and Shout (Beatles)
• You Shook Me All Night Long (AC/DC)
Chapter 7

Theory for Guitar 5: Major Chords in Major Keys

NOTE: This module is part of Music Theory for Guitar\textsuperscript{2}, a learning by doing (Chapter 1) course intended for guitar players who would like to learn some music theory without also being required to learn common notation. It is a short experimental course that will be refined and expanded if there is sufficient user interest and feedback.

This lesson discusses:

- What is a tonic, or I, chord? (Section 7.1: Major Keys and Tonic (I) Chords)
- How can you tell what key a major-chord progression is in? (Activity 1: What keys are your pieces in?, p. 42)
- What are dominant, or V, chords? (Section 7.2: Dominant (V) Chords and Subdominant (IV) Chords)
- What are subdominant, or IV, chords? (Section 7.2: Dominant (V) Chords and Subdominant (IV) Chords)
- Understanding chord names, part 2 (Section 7.3: Chord Names Part II: Same function, different flavors)
- Why are “dominant seventh chords” named after a chord function? (Section 7.4: Dominant Seventh Chords)

7.1 Major Keys and Tonic (I) Chords

Every piece of music in the common practice (Section 2.3: Common Practice: The Music that Most Guitarists Play) tradition can be said to be in either a major or minor key. The key of a piece defines all sorts of things about it, such as which notes and chords are most likely to be used. For example, major keys tend to include a lot of major chords, while minor keys feature minor chords. In Activity 2 Of Lesson 4 (Activity 2A: Choose harmonically simple pieces that you know, p. 38), you chose some favorite songs that use only major chords. Because they use only major chords, these songs are clearly in a major key.

The key also determines the function of each chord. The most important function in the key is the tonic. Its function is to be the home / base / ground / center that the chords are progressing toward. A strong, persuasive progression that ends on the tonic chord will leave listeners feeling satisfied that the music reached its intended destination. In simple, three-chord, major-key pieces with final-sounding endings, the last chord will almost always be the tonic chord.

The tonic chord can be used to name the key. As discussed in Lesson 2 (Chapter 4), the letter name of a chord, along with any associated sharps and flats, names the note that is the root (p. 25) of the chord.

\textsuperscript{1}This content is available online at <http://cnx.org/content/m62714/1.2/>.

\textsuperscript{2}Music Theory for Guitar <http://cnx.org/content/col12000/latest/>

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The name of the root note of the tonic chord, along with the (major or minor) quality (p. 26) of the chord, names the key. For example, if the tonic chord is G (or a chord with the same root and quality, such as GM7), the key is G major. If the tonic chord is Em (or, for example, Em9), the key is E minor.

NOTE: Power chords (p. 26) are more ambiguous than major or minor chords; they can be used easily with both major and minor scales (p. 63), for example. It is therefore more difficult to decide whether pieces that feature power chords are major or minor; the clues needed are not covered in this introductory course. Many sophisticated guitar songs can themselves be ambiguous, shifting back and forth between a major and minor sound. As a general rule, a common-practice piece is defined as major or minor depending on the sound of its final ending.

Activity 1: What keys are your pieces in?

1. Use the 3-chord pieces that you found in Activity 2 of Lesson 4 (Activity 2A: Choose harmonically simple pieces that you know, p. 38).
2. Look at the strong-final-ending chord of each piece. Name it as a basic major chord; for example, if you see a “G” or "GM7", name the chord as “G major.” Make a guess that this is also the name of the key, then take the following steps to double-check that this guess is right.
3. The OTHER two chords that are used should have letter names that are next to each other in the alphabet. For example, “C” and “D” are next to each other in the alphabet. “E” and “F sharp” are also next to each other alphabetically. (There is no need to worry about sharps and flats in this step.) Music theory is circular (Figure 7.1: Music Theory is Circular), so A and G are considered to be “next to” each other. (More about that later, too.)
4. The letter name of the tonic chord, on the other hand, should not be alphabetically “next to” either of the other chord names.
5. If there is a 7 chord, it should NOT be the tonic chord.
6. If the piece follows the rules in steps 2-4, then it is safe to assume that you are right about the name of the key. If it does not, set it aside for now and look for pieces that are examples of the simplest-major-chord progression. Refer to the list of suggested songs in Lesson 4 (Chapter 6) for suggestions, if needed.
Music Theory is Circular

Figure 7.1: Only seven letters, from A to G, are used for note names, with A the lowest-sounding note and G the highest-sounding in each sequence. Above the G in each sequence is another A, one octave higher than the A at the beginning of the sequence. Notes with the same name, which are one octave (12 frets) apart, are treated as "in theory the same," which makes common-practice music theory "circular." In other words, any time you are counting "up" or "down" frets, or "up" or "down" from any note or chord name, you are in theory going around a circle that links from the G to the next A.

7.2 Dominant (V) Chords and Subdominant (IV) Chords

The traditional names for chord functions can get confusing and difficult to remember, so musicians often use a simplified system in which a tonic chord is called a “one” chord, represented by the Roman numeral I. In common practice music, there are only two other major chords in every major key: the chord with the dominant function and the chord with the subdominant function. All of the other chords that are entirely in the key (in other words, all of the notes in the chord are in the key) are either minor or diminished. Harmonically complex music often “borrows” chords from outside the key, but obviously that’s another topic for later.

Which chords have the dominant and subdominant functions? Just like the tonic, it depends on the key. The dominant chord is the “five” (V) chord, and the subdominant is the “four” (IV) chord. This means that if you start counting at the letter of the tonic, and go through the alphabet (going back to A whenever you pass G, because music theory is circular (Figure 7.1: Music Theory is Circular)), the fourth letter will name the IV chord, and the fifth letter will name the V chord. If you have any trouble remembering which is which, remember that “sub” means “below” or “underneath.” The subdominant is “underneath” the dominant; its letter and number are both “underneath” the letter and number of the dominant.
Examples of Tonic, Subdominant, and Dominant Chords

Examples of I, IV, V chords:
- D, G, A
- E, A, B7
- C, F, G and/or G7
- F, B♭, C

Examples that are NOT I, IV, V:
- E, F, G
- E7, A, B
- C, E, G7

**Figure 7.2:** You can use a circle of letters to check whether the chords in a song have the right letter names for the tonic, subdominant, and dominant functions. (For now, we will assume that, for simple chord progressions, if the letter names are the right ones, any flat or sharp chords are likely to be the right ones, also.)

**IMPORTANT:** Which chords are sharp, flat, or natural? That is a more complex issue involving keys (Activity 1: What keys are your pieces in?, p. 42) and scales (p. 63). Instead of plunging into the technicalities, this course lets you do as much as possible simply using smart guesses and checking whether they sound right on your guitar. (I may expand this course, based on reader interest and feedback, so let me know if you wish it included more activities related to scales and keys.) If your piece fits the requirements of both Activity 1 and Activity 2, you can assume that you have found the tonic, dominant, and subdominant of your pieces, regardless of whether the chord names include sharps or flats!
Examples of I, IV, and V chords

Key of A major: A, D, E
Key of A♭ major: A♭, D♭, E♭
Key of B♭ major: B♭, E♭, F
Key of F major: F, B♭, C

Figure 7.3: You can use the letter-name circle above to check that all of these fit the "count to 4 and 5 from the tonic" rule. Whether a chord is flat, sharp, or natural is more complex; for now you can assume that the simple pieces you are analyzing are almost certainly the standard IV and V chords.

Activity 2: Identify dominant and subdominant chords in your simple progressions

1. Look again at the list of chords in each of your study pieces.
2. The two chords that are not the tonic should have letter names that are “next to” each other. Decide which one is IV and which V based on which chord sounds lower. This can be harder to tell with entire chords than with single notes, so if you have trouble deciding by ear: The letter names were assigned on an ascending scale; in other words, A is lower than B, which is lower than C, and so on. After G, the next higher note is A again, so G is lower than A when they are right next to each other.
3. Check to make certain that these two chords are IV and V chords, by starting on the letter of the I chord name and counting to the letters of the other chord name (see Figure 7.2 (Examples of Tonic, Subdominant, and Dominant Chords)).

Note: You may have noticed in Activity 2 that chords that are higher in theory may not clearly sound higher when you play them. For example, a B chord is lower in theory, but may sound higher than a C chord, depending on the particular fingering (or voicing) that you use for each chord. This is because music theory is circular: After going up from A to G, the next higher note is an A again, and the entire A-to-G pattern starts over again. It can be very useful ear training to practice playing the same chord using different fingerings (for example, a barre chord fingering and a fingering that uses open strings). Note that the different fingerings create different sounds, yet musicians do not consider them to be different chords. Instead, they consider the two fingerings to be two voicings of the same chord. To practice hearing how/why they are the same, use some of your practice time to switch back and forth between different fingerings of the same chord, listening carefully for both the difference and the sameness. Also, practice substituting using a different fingering for some of the chords in some of the songs you play. If you don’t know multiple fingerings for any chords, look some up and learn at least one alternative fingering for a few of the chords that you play often.

7.3 Chord Names Part II: Same function, different flavors

As discussed in Lesson 2 (Chapter 4), the first part of the chord name indicates the name of the root note and its basic quality (for example, major or minor). As shown in Activity 2, it is the chord root — the
letter name (along with any sharps or flats) – that determines its function in the key. Its function in turn determines the quality of that chord in that key. For example, a chord in the V position in a major key will always have a major quality. A minor chord in that position would not be in the right key; some of its notes would be outside the key. If there is a minor chord in the V position of a major key, it will not be a simple dominant chord but will have a different (more complex) function.

The rest of the chord name, including added notes like 7 or 9, ornaments such as sus4, or finger/voicing directions such as /B (meaning “play B as the lowest note”), may specify or alter the aural flavor of the chord but does not change its basic function or quality. For example, if a G major chord has a dominant function in a piece, then G7, GM7, G/B and Gsus4 also have a dominant function.

Some musicians find it useful to name chords using their function rather than their root-note name. For example, if a dominant chord is played as a seventh chord rather than a plain major chord, it can be called a “I7” (“one seventh”) chord. If a subdominant chord is played as a major seventh, it can be called a IVM7 (“four major seventh”) chord.

Chords with the same Root and same Quality have the same Function

Examples in the Key of A major:

<table>
<thead>
<tr>
<th>Major</th>
<th>Minor</th>
<th>Dominant</th>
<th>Subdominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, AM7, A9</td>
<td>Am</td>
<td>A7</td>
<td>A6</td>
</tr>
<tr>
<td>D, D/A, D6</td>
<td>Dm</td>
<td>D7</td>
<td>D7#</td>
</tr>
<tr>
<td>E, E7, Esus4</td>
<td>Em</td>
<td>E7</td>
<td>Edim7</td>
</tr>
</tbody>
</table>

Figure 7.4: In songs with rich or complex harmonies, the chords that fill the I, IV, and V functions may not be plain major chords, but are still basically major chords.

Activity 3: Use function to name chords in your music

1. If you played through any pieces in Lesson 1 that had many chords that were not plain major or minor chords, play through a few of them again, looking for a piece that you believe is probably in a major key. If all of your playing pieces include only plain major or minor chords, find the chords for a piece that you like to listen to, and that you believe is probably in a major key. (See example below.)
2. Practice finding the I, IV, and V chords in more complex songs: Look for the major-quality chords; decide which is the "final-sounding" I chord; count letter names as you did in Activities 1 and 2. (For now, deal with sharps and flats simply by noticing which is most common for each function. For example, if you see many B flat chords, but no B chords, you can assume that B flat is probably the major chord that is in the key, not B natural.)
3. Can you find any chords that are “added-note” versions of I, IV, or V chords?

Example 7.1: How to do Activity 3
Figure 7.5: All of the major-quality chords are variations of D, G, A, or C. (E and B chords are all minor quality.)
CHAPTER 7. THEORY FOR GUITAR 5: MAJOR CHORDS IN MAJOR KEYS

Figure 7.6: This one is slightly tricky, because there are two possible I-IV-V combinations: D-G-A and G-C-D. I chose D-G-A as more likely because the refrain and verse both begin and end on D chords. The C chord is not used much; it turns out that it is a chord "borrowed" from outside the key.

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Figure 7.7: All "7" and "sus4" indications are simply adding notes to major or minor chords. Indications to play a specific bass note may also be adding a note to the basic chord (for example, when there is an F sharp in the bass of a G chord). Or they may simply be "voicing" instructions suggesting the best note in the basic chord to use in the bass (for example, when E is in the bass of an A chord).

7.4 Dominant Seventh Chords

As mentioned above, any given major key only has three major chords in it; that is a primary reason why progressions that use only those three chords are so popular. They create a strong, easy-to-hear signal that you MUST be in that key, because no other major key uses those same three major chords.

There are several different flavors of seventh chords, including minor sevenths, major sevenths, and diminished sevenths. One flavor of seventh chord also creates an easy-to-hear signal that a piece is in a certain key: the dominant seventh chord. In every major key, there is only one dominant seventh chord that is completely in that key, which is — as you can probably guess — the V7 chord. Other than the I chord itself, the V7 is the chord that sends the strongest “we must be in THIS key” signal to listeners, because that particular 7 chord can only be found in one key. (People who have listened to a lot of common practice (Section 2.3: Common Practice: The Music that Most Guitarists Play) music will hear these where-is-the-key signals subconsciously, even if they do not "know" anything about music.)

Since the V7 has such a powerful function in a key, any chord with this dominant flavor (which is based on a major chord, but is a different flavor from major seventh) can be called a “dominant seventh” chord, even if it is not in the dominant position. (For example, blues progressions tend to use “dominant sevenths” in every position.) However, the V7 function and flavor are so popular that these chords are often simply called “seventh chords,” and are written simply as “7”, as opposed to “major seventh chords” which need to be indicated, for example, as “M7” or “maj.7.”
Dominant Sevenths versus Major Sevenths

Figure 7.8: The dominant seventh adds a different note than the major seventh. In order to clarify which note is wanted, the chord names and symbols are different. Dominant sevenths are so common in so many genres that they are typically simply called "seventh" chords. A main reason that they are so common is that they create a very strong aural signal that a piece is in a particular key.

NOTE: If you are still uncertain how different seventh chords can have different flavors, practice playing different flavors of seventh chords that have the same root – for example G7 and GM7 – to hear the difference. Then practice all of the dominant seventh chords you can think of – for example A7, B7, C7 – listening for the particular way that they sound the same. Finally, play all of the major seventh chords you can think of, listening for the particular way they sound more like each other than like the dominant seventh chords. As an added challenge, try listening for dominant sevenths and major sevenths in your favorite recordings.

Activity 4: Practice with V and V7 chords

1. If any of your 3-chord study pieces include a dominant seventh chord, check to make sure that it is in fact the V7 chord of the key. (If it’s not, check to make sure you have done all of the steps in previous activities correctly. If you become convinced that the only dominant seventh chord in your three-chord piece is not the V7 of the key, please notify the author. If there are any pieces out there that are that confusing, I would like to warn others against using them for these activities.)

2. If any of your pieces include V7 chords, experiment with substituting a plain V chord instead, listening to hear the difference. For example, if your piece includes any D7 chords, substitute a D chord. Which do you prefer? If there is more than one V7 in the piece, do you like some substitutions better than others? (Note that it is fine to substitute a V chord for a V7 chord whenever you like. You are simply leaving out one of the chord notes, so there is no way this will “clash” with what any other musicians are doing. You will just get a less-harmonically-complex sound.)

3. If any of your pieces do not include any V7 chords, experiment with substituting the V7 chord for one or more of the V chords, listening to hear the difference. (For example, if D is the V chord, try changing a D to a D7.) Which do you prefer? If there is more than one V chord in the piece, do you like the substitution better in some places than others? (Note that in most circumstances, you can choose as a guitarist to play a V7 instead of a V, if you prefer the sound, even if you are playing with
others. Check by listening carefully to make sure the change does not clash with what band mates are doing, or with their expectations and preferences, but as a general rule this works well.)
Chapter 8

Theory for Guitar 6: Changing Key by Transposing Chords

NOTE: This module is part of Music Theory for Guitar, a learning by doing (Chapter 1) course intended for guitar players who would like to learn some music theory without also being required to learn common notation. It is a short experimental course that will be refined and expanded if there is sufficient user interest and feedback.

This lesson discusses:

- What is transposition? (p. 54)
- What is the difference between having “perfect pitch” and having good “relative pitch”? (p. 53)
- Can you change the key without changing the chords you play? (Section 8.1: Transpose by making a chord sound higher or lower)
- How does knowing chord function help you transpose? (Section 8.2: Transposing by Chord Function)

As discussed in Lesson 5 (Chapter 7), musicians in some genres that use guitar prefer to name chords according to their functions rather than according to their root-note names. For these musicians, it is actually easier to think of the chords in terms of function. Why would this be so? As discussed in Lesson 4 (Chapter 6), it is the function of chords that determines how they are heard and understood in the music. People who hear a G specifically as a G, an ability called perfect pitch, are rare. Most people who listen to common practice genres hear a G as a function in the music – as the tonic, for example, or as the dominant – even if they don’t consciously realize it! Consciously hearing the functions and relationships of the notes and chords is called relative pitch. Unlike perfect pitch, relative pitch can be developed, with some practice, by most musicians. Relative pitch is in many ways more useful than perfect pitch for playing functional harmony; for example, having perfect pitch can make it difficult to play transposed music. You can improve your relative pitch sense more quickly by being more consciously aware of note and chord functions whenever you play, as you are learning to do with this course!

Every major key has the same set of harmony functions, and the same set of relationships between them. But, as discussed in Lesson 5, each key has a different chord filling each function. For example, in G major, G is the tonic chord (Section 7.1: Major Keys and Tonic (I) Chords) and D is the dominant chord (Section 7.2: Dominant (V) Chords and Subdominant (IV) Chords); but in D major, D is the tonic and A is the dominant. Since the functions and the relationships are the same, you can move any piece in any major key to any other major key. The piece will sound essentially the same, because you are preserving all of its internal relationships. (This is similar to moving an entire building, while preserving the way it is put together; the

1This content is available online at <http://cnx.org/content/m63045/1.2/>.
2Music Theory for Guitar <http://cnx.org/content/col12060/latest/>
CHAPTER 8. THEORY FOR GUITAR 6: CHANGING KEY BY TRANSPOSING CHORDS

Building will still look essentially the same.) The only difference will be that the entire piece will sound higher or lower in the new key (as if you moved the entire building up or down the slope of a mountain.)

Moving a piece from one key to another is called transposing the music. Most listeners will not even notice the difference, although it can matter a great deal to the musicians. Vocalists may find it much easier to sing a piece in a higher or lower key, for example. For some instrumentalists, too, some keys are easier to play in than others. And of course, the names of the chords and the fingerings change. Many guitarists, for example, would much rather play in the key of G major than in F sharp major. There are also instruments, such as trumpet, which, like vocalists sometimes find it much easier to perform a piece in a higher or lower key. Finally, even when an instrument can easily play in either a higher or lower key, you may prefer one or the other because the instrument has a different sound in each range. For example, flutes can sound a bit shrill at the top of their range, but can also sound breathy and difficult-to-hear at the bottom of their range.

重要：You cannot transpose a piece in a major key to a minor key, or vice versa, because the relationships of the chords and notes in minor keys are different than those in major keys. (For example, the tonic chord is a minor chord.) To move a major-key piece to a minor key, you have to substantially change the way it sounds. You are not simply “rebuilding the same” piece in the same way; you have to change the way it is put together. This is not simply moving the building; it is remodeling it. The process is not straightforward; there are creative decisions to be made, with multiple options that could work well, so the result is an arrangement of the piece, not a simple transposition.

8.1 Transpose by making a chord sound higher or lower

To transpose a piece completely while keeping all of the relationships the same, you have to move every note in the piece higher or lower by the same amount. As a guitarist, you can do this by using the same chord fingerings, but making them sound higher or lower. There are a few different options for taking this approach, and each has strengths and weaknesses

- You can use a capo to transpose up to a slightly higher key. The higher the fret, the further you are from the original key. For example, a piece that is played with C major chords at capo II (i.e. with the capo at the second fret) sounds as if it is in D major. At capo IV, it sounds as if it is in E major. Capos can be easy to use, because you feel that you are playing the same chords and can use familiar fingerings for favorite chords and riffs. However: You can only raise a piece, not lower it, using a capo. A capo at a high fret restricts your fingers to a small section of the guitar neck and changes the timbre\(^3\) of the guitar. And they do not work well with electric instruments.

- Many alternative guitar tunings change the pitch relationship of the strings, thus changing the fingerings of chords. But some slack tunings simply tune the entire guitar a little lower than standard tuning, thus transposing down to a slightly lower key. Small changes can give the guitar a nice open timbre, and as with a capo, you feel that you are playing the same chords. However: The time it takes to retune can be annoying. Big changes in key are not possible, as the strings get too slack to vibrate well. Trying to retune to a higher key is not recommended because of the risk of breaking strings.

- You can use barre chords and other fingerings that use no open strings to play in a different key, by playing the chords higher or lower on the neck. For example, if you use only barre chords to play a song in C major, and you play every single chord two frets higher than usual, you will be playing the song in D major instead. This is a very versatile approach to transposing, as you can transpose higher or lower and do not need a capo or time to retune. However: It can be confusing at first, because you feel you are playing different chords. Certain adjustments are needed if any chords get transposed beyond the end of the guitar neck. And of course this method does not work if any chords use open strings.

\(^3\)“Timbre: The Color of Music” <http://cnx.org/content/m11059/latest/>

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Activity 1: Making Chords Sound Higher or Lower

1. For steps 2-4, check to see how easy or difficult each approach to transposition is for you. You are free to decide for yourself which approaches are useful, impractical, unpleasant-sounding, or simply too difficult for you.

2. You will need a capo if you want to try this step. Try to think of a favorite piece that you like to sing while playing the chords, but that is a little too low for your voice. (If you are uncomfortable singing and playing simultaneously, try humming the tune, or ask a band mate or friend to sing along. If none of those are possible, try this exercise with a piece that you play in a lower key than a favorite recording.) If you have a capo available, put the capo at the second or third fret and play it with the capo, listening for the ways that it sounds “the same” and the ways that it sounds “different.” Can you use the capo to find an ideal key for your voice (or the same key as the one in the recording)?

3. If you want to try this step, you will need to be able to retune your guitar easily. Try to think of a favorite song that is a little too high for your voice. (Again, if you are uncomfortable singing and playing simultaneously, try humming the tune, or ask a band mate or friend to be your singer. If none of those are possible, try this exercise with a piece that you play in a slightly higher key than a favorite recording.) If you know how to retune your guitar lower, try using a slack tuning to make it easier to sing. Again, listen for the ways that the changes in key affect the sound of both your voice and the guitar. Can you tune it low enough for your voice (or to match the recording), or does the sound of the guitar become too dull before you can find a good key?

4. If you want to try this step, you will need to be able to play a piece using no open strings at all. This might be, for example, a piece that you play using only barre chords, or perhaps a solo lick that you play high on the neck of the guitar. Play each note or chord one fret higher than usual. If you can sing along with the chords, try singing along once you have gotten used to playing the chords in the new key. Listen to the difference in the sound of the guitar lick, or the chords and the vocals. If you like the result, try playing it two frets higher than usual. If it became more difficult or unpleasant-sounding, try playing the piece one fret lower than usual instead of higher.

NOTE: What key have you moved a piece to when you transpose it up or down in these ways? Like chords, keys can be sharp, flat, or natural, so keeping track of the names of chords and keys, when you are changing keys by frets or by retuning, requires understanding scales (p. 63). Scales are not covered in this short course, which currently focuses on developing an understanding of chord function, but the course may be expanded if there is sufficient user interest and feedback.

8.2 Transposing by Chord Function

You may have found that the same-fingered approaches in Activity 1 were of limited use to you. Even if you liked one or more of them, being able to change chord names and fingerings will give you even more transposition options. You can move a piece either higher or lower without having to worry about changing the guitar’s timbre too much or “running out of guitar neck,” so you can make it much higher or much lower if that is what is needed. Transposing the chord names also lets you play - and think - in the new key. It may make a piece easier to play; for example, most guitarists find it easier to play in A major than in A flat major. It can also change the sound of a chord progression or give you different ideas for how to play a piece; for example, playing a blues piece in E may suggest some favorite riffs that didn’t occur to you when you played it in F.

You can eventually learn to transpose from any major key to any other major key (and from any minor key to any other minor key), but this will require a more thorough knowledge of scales and chord functions than is covered in this course. For now, try just switching the keys of the two simple, major-key pieces that you have been studying. It should help to keep in mind that the basic idea is that the chord names (and fingerings) change, but chord functions stay the same; that’s what makes transposition work.
Example 8.1
This is a simplified, introductory version of transposing by chord function. As you get comfortable with this method of transposition, you can expand on it by adding more chord functions and more keys (as discussed in the lessons that follow this one). First choose two songs that have chords with the same functions, for example, both have only I, IV, and V chords.

<table>
<thead>
<tr>
<th>Song 1</th>
<th>Song 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F</strong></td>
<td><strong>G</strong></td>
</tr>
<tr>
<td>Should auld acquaintance be forgot</td>
<td>If a body meet a body</td>
</tr>
<tr>
<td><strong>F</strong> B♭</td>
<td><strong>G</strong></td>
</tr>
<tr>
<td>And never brought to mind</td>
<td>Coming through the rye.</td>
</tr>
<tr>
<td><strong>F</strong> C</td>
<td><strong>G</strong></td>
</tr>
<tr>
<td>Should auld acquaintance be forgot</td>
<td>If a body kiss a body,</td>
</tr>
<tr>
<td><strong>B♭</strong> C7 <strong>F</strong></td>
<td><strong>G</strong></td>
</tr>
<tr>
<td>And auld lang syne?</td>
<td>Need a body cry?</td>
</tr>
<tr>
<td><strong>F</strong> B♭</td>
<td><strong>G</strong></td>
</tr>
<tr>
<td>For auld lang syne, my dear</td>
<td>Every lassie has her laddie,</td>
</tr>
<tr>
<td><strong>F</strong> C</td>
<td><strong>G</strong></td>
</tr>
<tr>
<td>For auld lang syne,</td>
<td>None they say have I;</td>
</tr>
<tr>
<td><strong>F</strong> C</td>
<td><strong>G</strong> C</td>
</tr>
<tr>
<td>We'll take a cup of kindness yet</td>
<td>Yet all the lads they smile at me</td>
</tr>
<tr>
<td><strong>B♭</strong> C7 <strong>F</strong></td>
<td><strong>G</strong></td>
</tr>
<tr>
<td>For auld lang syne.</td>
<td>When coming through the rye</td>
</tr>
</tbody>
</table>

Figure 8.1

Determine which chord has which function in each song, then change every I chord in the first song to the I chord in the second song, and vice-versa. Do the same for the IV and V chords. Any flats or sharps in the chord name move to the new song along with the letter name of the chord; they are part of the key, so they move with the key. Indications such as "7" chords stay in place; they are part of the chord progression of the song, so they stay with the song.
Activity 2: Transpose your pieces based on chord functions

1. Choose two of the simple, three-major-chord study pieces you found for Lesson 4 (Chapter 6).
2. If you have not already done so, determine which chords are I, IV, and V chords in each song using the steps practiced in Lesson 5 (Chapter 7).
3. Following the steps given in the example above (Example 8.1), transpose both songs by switching their I, IV, and V chords in one song to the I, IV, and V chords of the other song, and vice versa.
4. Write down the transposed chord progressions if you have any trouble remembering them.
5. Play through each piece in its new key, listening carefully and either singing the melody or imagining the melody in your head as you play the chords.
6. Did you find each piece easier or harder to sing in the new key? Easier or harder to play? Which versions do you prefer, and why? You may want to start keeping track of which keys you prefer for all of your favorite songs.
7. If you need or want more practice, choose another three-major-chord piece, either from your favorite pieces or from a list of 3-chord songs (such as the list in Lesson 4 (Chapter 6)). Identify the I, IV, V, and V7, then repeat the above steps, substituting the new piece for Piece B. Repeat this step as many times as you like.

Available for free at Connexions <http://cnx.org/content/col12060/1.4>
Activity 3: Start building your own transposition chart

1. Use a pencil/pen and paper or a word processing/drawing/spreadsheet program to start building your own transposition chart. This will be a chart of the chords that fill each function in the keys that you like to play. You can make a mini version of it now and rewrite expanded versions later, or try to leave empty rows and columns for the keys and functions that you do not have yet.

2. In one row or column, make a list of the major keys that you played in Activity 2.

3. For each key, list the I, IV, and V chords in the key. Don’t forget to include any sharps or flats! Line up the chord names so that you have neat rows or columns that make it easy to spot which chords have the same function in other keys. (See Figure 8.3 (Transposition Chart).)

4. If you like, you can purposefully expand your chart by looking for 3-chord songs that use different sets of chords than the keys in the chart. When you find one, use the steps outlined in Lesson 5 to analyze it and add its key to the chart. Or you may prefer to add to the chart more by chance, whenever you suspect that you are playing a simple major-key song in a key that is not yet in the chart.

<table>
<thead>
<tr>
<th>Chord Function:</th>
<th>I</th>
<th>IV</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key of F Major</td>
<td>F</td>
<td>B♭</td>
<td>C</td>
</tr>
<tr>
<td>Key of G Major</td>
<td>G</td>
<td>C</td>
<td>D</td>
</tr>
</tbody>
</table>

Figure 8.3
Chapter 9

Theory for Guitar 7: Minor Chords in Major Keys

NOTE: This module is part of Music Theory for Guitar\(^2\), a learning by doing (Chapter 1) course intended for guitar players who would like to learn some music theory without also being required to learn common notation. It is a short experimental course that will be refined and expanded if there is sufficient user interest and feedback.

This lesson discusses:

- In major keys, which chord functions are filled by minor chords? (p. 59)
- Which minor-chord function is most common in major keys? (Section 9.2: The vi Chord in Major Keys)

9.1 Minor Chord functions in Major Keys

As discussed in Lesson 5 (Chapter 7), every major key has only three major chords that are entirely in the key: the chords in the I, IV, and V functions. Every major key also has three minor chords that are entirely in the key. The symbols for their functions often use a lower-case Roman numeral, as a reminder that they are minor chords. The minor chords in the key have the ii, iii, and vi (“two, three, and six”) functions. We won’t even bother in this course with the classical-theory terms for the ii, iii, and vi functions in this course, because tonic, dominant and subdominant (I, V, and IV) are the only chord-function terms that are in common use among guitarists.

Just as you did with the major-chord functions in Lesson 5, you can figure out which function a minor chord has by counting from the letter name of the tonic to the letter name of the chord.

WARNING: Remember, this simplified circle of chord-letter-names only works when the chord has not been “borrowed” from another key, so you can assume that the chord is in the key, regardless of whether it is sharp, flat or natural. In more harmonically complex pieces, you must keep track of sharps and flats in order to determine chord function correctly! You may be familiar enough with a certain key to know to know which version of the chord (sharp, flat or natural) is in the key, or you may be able to look it up in the chord chart that you began constructing in Activity 3 of Lesson 6 (Activity 3: Start building your own transposition chart, p. 58). Otherwise, make sure you use this simplified method only with harmonically simple pieces.

\(^1\)This content is available online at \(<\text{http://cnx.org/content/m63108/1.2/}>>\).

\(^2\)Music Theory for Guitar \(<\text{http://cnx.org/content/col12060/latest}>>\).

Available for free at Connexions \(<\text{http://cnx.org/content/col12060/1.4}>>\)
Finding Chord Function

Example 1
Final chord / Key signature: C
Minor chord used: Em

Answer: Em is iii in the key of C

Example 2
Final chord / Key Signature: E
Minor chord used: C#m

Answer: C#m is vi in the key of E

Figure 9.1: You can use a circle of chord letter names to help decide the function of a minor chord. For now, if a major-key song is not harmonically complex, and if a minor chord is in the ii, iii, or vi position, you can guess that it is probably the chord that is in the key, regardless of whether it is a sharp, flat, or natural chord. Minor chords in other positions must be "borrowed" from other keys.

Activity 1: Find minor chords and minor-chord functions in major-key music

1. In Activity 3 of Lesson 2 (Activity 3: Types of Chords in Your Music, p. 27), did you find any favorite pieces that you decided were in a major key, but had some minor chords in them? If so, you may be able to use one of those pieces. If not, you can play through your music now, searching for a piece that seems to feature major chords but also has at least one minor chord in it. (Continue to look for harmonically simple versions of pieces, featuring basic major and minor chords. If you like, you can try simplifying chords yourself, for example ignoring 7’s to concentrate on basic chord functions.) If you prefer, you can look for a simple version of the chord progressions for one of the pieces on the list of suggested music (Major Key with Minor Chords, p. 61).

2. Check to determine that the piece is in fact in a major key, and determine the tonic and name of the
key, using the steps you learned in Lesson 2. (Note that the more minor chords the song includes, the more difficult it can be to decide whether it is in a major or minor key. Some are ambivalent on purpose, because it makes them harmonically interesting.)

3. For each different minor chord in the piece, determine whether it is a ii, iii, or iv chord, or else a chord that is not fully in the key.

4. Which minor-chord function is most common in your piece?

5. Choose a different song in a different key and repeat the activity with this song.

Major Key with Minor Chords

- Always on my Mind (Nelson)
- American Pie (McClean)
- Angie (Rolling Stones)
- Can You Feel the Love Tonight (John)
- Danny Boy (trad.)
- Don’t Stop Believing (Journey)
- Hard Day’s Night (Lennon/McCartney)
- Heart of Gold (Young)
- Hey There Delilah (Plain White T’s)
- I was Here (Beyoncé)
- Oh Shenandoah (trad.)
- Price Tag (Jessie J)
- Take On Me (A-ha)
- The Scientist (Coldplay)
- We are Young (Fun)

9.2 The vi Chord in Major Keys

It is likely that you found in Activity 1 that you found the vi chord to be a particularly common minor chord in your pieces. Just as there are many three-chord pieces in many genres that use only I, IV, and V, there are many four-chord pieces that use only I, IV, V, and vi. The following list hints at the variety of genres that include songs that use only I, IV, V, and vi chords. You may also want to listen to Axis of Awesome’s "Four Chord Song," an amusing take on the ubiquity of this chord combination.

These can be played using only I, IV, V, and vi chords:

- 21 Guns (Green Day)
- A Thousand Years (Perry)
- Country Roads (Denver)
- Don't Forget Me (Red Hot Chili Peppers)
- Don't Stop Believing (Journey)
- Guantanamera (Fernandez)
- Hey, Soul Sister (Train)
- Hit the Road, Jack (Charles)
- I'm Yours (Mraz)
- Let it Be (Lennon/McCartney)
- No Woman No Cry (Marley)
- The Meaning of Life (Nelson)
- Wherever You Will Go (The Calling)
- With or Without You (U2)
- You Raise Me Up (Løvland/Graham)

Activity 2: Form, progression, and harmonic tempo in four-chord pieces

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CHAPTER 9. THEORY FOR GUITAR 7: MINOR CHORDS IN MAJOR KEYS

1. Choose two different songs, in different keys, that use only I, IV, V, and vi chords. (V7 chords can also be included.) You may have discovered such songs in Activity 1, or you may be able to find them among the songs you already play, or you can choose from the list of four-chord songs (These can be played using only I, IV, V, and vi chords: p. 61).

2. Identify the I, IV, V, (V7) and vi chords.

3. Choose any main section of each song, such as a verse or a refrain. (You can choose a verse from one song and a refrain from the other.)

4. Referring as much as you need to both the written music and/or the way you play the piece, and using any note-taking method that you like, jot down the progression of the section as a progression of chord functions, including the number of bars each chord is played.

5. Look for any patterns, repetitions, and similarities you can find, both within the same song and between the two songs. For example, are there any specific sequences of chords (for example, V7 – I or iv – IV – V) that get repeated? Does the progression tend to return to the I chord every 4 bars, or every 8 bars, or at the end of each melodic phrase? If there are spots where the harmonic tempo (p. 29) speeds up or slows down, are the same chords involved every time? Do the two songs seem to use any of the chord functions in the same way? (See the example analysis (Figure 9.2: Example Analysis).)

6. If you like to experiment with chord progressions, try creating your own progression that is different than the progressions in your study pieces, but uses some of the same patterns, repetitions, or similarities. You can also experiment with the progressions by trying to play them in a different style: change the tempo, use a different picking or strumming patterns, or even try adding notes (such as sevenths) to some of the chords.

7. Do your new progressions remind you of any other songs you know? Would any be useful as an accompaniment for an improvised solo or for a newly-composed song melody?

---

**Example Analysis**

<table>
<thead>
<tr>
<th>G</th>
<th>Em</th>
<th>C</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>*I gave my love a cherry that has no stone*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>G</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>*I gave my love a chicken that has no bone*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>G</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>*I gave my love a ring that has no end*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Em</td>
<td>C</td>
<td>G</td>
<td></td>
</tr>
<tr>
<td>*I gave my love a baby with no cryin'*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 9.2: Analysis of the chords in a verse of a folk song that uses only I, IV, V, and vi chords. Every chord lasts for one measure, giving a very regular harmonic tempo. After the first tonic chord establishes the key, the rest of the verse uses only two chord sequences, one for the middle two phrases, and the other for the first and last phrases.

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Chapter 10

Theory for Guitar 8: An Introduction to Chord Function in Minor Keys

This module is part of Music Theory for Guitar\textsuperscript{2}, a learning by doing (Chapter 1) course intended for guitar players who would like to learn some music theory without also being required to learn common notation. It is a short experimental course that will be refined and expanded if there is sufficient user interest and feedback.

This lesson discusses:

- What is a scale? (p. 63)
- What makes a minor key the “relative” of a major key? (Figure 10.1: Relative Major and Minor Keys: Same Chords, Different Functions)
- How do you decide whether a piece is in a major key or in its relative minor? (p. 63)
- Which chords have the most important functions in minor keys? (p. 63)
- What is a cadence? (p. 65)
- What makes minor keys harmonically more complex that major keys? (Section 10.2: The Dominant Exception in Minor Keys)
- How can minor-key pieces be transposed? (Section 10.3: Transposing in Minor Keys)

10.1 Relative Minor and Major Keys

Lesson 4 (Chapter 6) demonstrated that the vi chord tends to be the most common minor chord in major-key pieces. The vi chord in a major key is special for another reason; it names the minor key that is the relative minor of that major key. Every relative minor / major pair of keys uses (basically) the same set of notes and chords. For example, A minor is the relative minor of C major. Both keys are based on the same set of notes: all of the natural notes. The list of notes that are in a key is the scale for that key. The scales for A minor and C major use the same notes, but the C major scale starts and ends on C, while the A minor scale starts and ends on A.

The main chord functions (p. 41) are filled by chords that use only notes that are in the key. So relative major and minor keys also share the same chords. For example, the keys of C major and A minor both use Am Bdim C Dm Em F, and G chords. (Every key includes one diminished chord, which, in most music styles, does not get used much.) The main difference between the keys is that C major will tend to make more use of the three possible major chords - C, F and G - with C sounding like the final-ending tonic. Pieces in A minor will tend to make more use of the three possible minor chords - Am, Dm, and Em - with

\textsuperscript{1}This content is available online at <http://cnx.org/content/m63117/1.2/>.
\textsuperscript{2}Music Theory for Guitar <http://cnx.org/content/col12060/latest/>
CHAPTER 10. THEORY FOR GUITAR & AN INTRODUCTION TO CHORD FUNCTION IN MINOR KEYS

Am sounding like the final-ending tonic chord (Section 7.1: Major Keys and Tonic (I) Chords). This is why, to decide what key a piece is in, you have to look at the chords that are used. (And yes, there are pieces that are ambiguous enough that it’s hard to decide which key they are in. We are trying to avoid them for now.)

Activity 1: Minor Key Songs

1. Find a song that you can play that seems to be in a minor key. Look for songs that have strong-sounding endings on a minor chord and that include at least two different minor chords (i.e., with different roots (p. 25)). You may have come across such songs as you were searching for major-key songs for previous lessons, or you may be able to find some if you play through the songs you know that use minor chords, but in most guitar genres, minor key songs are much less common than major key songs. If you have trouble finding one, choose a song from the list of minor-key songs below (p. 64) and search for a version of the song’s chord progressions that is not too complex.

2. Make a guess that the strong-ending minor chord of each song names the key; for example, if a song ends on an Em chord, guess that the song is in E minor.

3. Make a list of the different chords that are used in the progression. Using the method you learned in Activity 2 of Lesson 5 (Activity 2: Identify dominant and subdominant chords in your simple progressions, p. 45), guess what function each chord has in the piece, based on how far its letter name is from the letter name of the tonic chord. For this activity, you can continue to ignore sharps and flats in the chord names and assume that the chord roots are all in the key; but remember, that means that, for more complex progressions, some of your guesses may be wrong.

4. Make a note of which functions are filled by minor chords and which by major chords. For example, most or all of your tonic chords should be minor (i) chords, not major (I) chords. If there are chords in the subdominant position (four letter names higher), are they minor (iv) or major (IV) chords? Keep your notes for Activity 2.

5. Choose a different song that appears to be in a different minor key; it should have a different strong-ending chord and should include at least a few chords that are not included in your first-choice song. Repeat steps 2-4 for this song.

The following list hints at the variety of genres that include songs in minor keys. In general, you will find that minor-key songs are both more difficult to find and more harmonically complex than major-key songs. If none of the following interests you, try conducting a search for your favorite genre + "minor key." If you want to focus on harmonically simple songs, search for folk songs or traditional songs or public domain songs in minor keys. You may also be able to consider the general harmony/sound of the familiar songs on the list and make some good guesses regarding other songs you know that might be in minor keys.

- 505 (Arctic Monkeys)
- Abracadabra (Steve Miller Band)
- Ain’t No Sunshine (Withers)
- All the Pretty Little Horses (trad.)
- Californication (Red Hot Chili Peppers)
- Dead and Gone (T. I.)
- Dust in the Wind (Kansas)
- Eleanor Rigby (Beatles)
- Greensleeves (What Child is This) (trad.)
- Maneater (Hall and Oates)
- Hotel California (Eagles)
- House of the Rising Sun (trad.)
- Sound of Silence (Simon/Garfunkel)
- Summertime (Gershwin)
- The Thrill is Gone (King)


10.2 The Dominant Exception in Minor Keys

Remember the chords listed above for the A minor and C major keys? If you were thinking in terms of chord functions, you may have noticed that the minor chords - Am, Dm, and Em - would be the tonic (Section 7.1: Major Keys and Tonic (I) Chords), subdominant (Section 7.2: Dominant (V) Chords and Subdominant (IV) Chords), and dominant (Section 7.2: Dominant (V) Chords and Subdominant (IV) Chords) (i, iv, and v) chords in the key of Am. In other words, the main chord functions – the ones that strongly signal which key you are in – are the same functions as in major keys, but now these functions are filled by minor chords rather than major chords.

Relative Major and Minor Keys: Same Chords, Different Functions

So both major and minor keys will have a tendency to use tonic, subdominant, and dominant chords, to create a strong major or minor sound in a piece. There is one important difference, however, that gives minor keys a tendency to be a bit more complex than major keys. As discussed in Lesson 5, the dominant seventh chord (Section 7.4: Dominant Seventh Chords) (V7) provides an unusually strong indication of the key, because in each major key there is only one V7 that is entirely in the key. In Activity 2 of Lesson 7 (Activity 2: Form, progression, and harmonic tempo in four-chord pieces, p. 61), you may have noticed that a dominant chord followed by a tonic chord, (V – I or V7 – I) creates a particularly strong “final ending” feeling. Chord sequences that create a feeling of ending are called cadences, and V(7) – I is the most common type of cadence. The V(7) – I (that is, either V-I or V7-I) ending sequence is so entrenched in the ears of people who listen to common practice (Section 2.3: Common Practice: The Music that Most Guitarists Play) music that it often shows up in minor keys too. This means that songs in minor keys often borrow a chord that is not entirely in the key: the major V (or V7) rather than the minor v. For example, a piece in Am may use an E or E7 chord instead of (or even along with) an Em chord.

You may also find minor-key songs that avoid the dominant altogether, choosing a different chord function (for example VII) to lead up to the tonic chord in cadences. Rather than emphasizing the key and the tonic, this tends to create a more ambivalent, less insistent, sounding progression that suits the mood of many minor-key songs.

Activity 2: v or V?

1. Look again at the lists of chord functions that you found in your songs in Activity 1. For each song,
CHAPTER 10. THEORY FOR GUITAR & AN INTRODUCTION TO CHORD FUNCTION IN MINOR KEYS

10.3 Transposing in Minor Keys

You can use the method from Lesson 6 (Chapter 8) to start learning to transpose songs that are in familiar minor keys, using familiar chords and chord functions. Be cautious about any chords you find that may be outside of the key. You can treat your transposition charts as works-in-progress that may need editing and correction, or if you prefer certainty, check your information against a published transposition chart. (There are many available on the Internet.)

Activity 3: Transpose minor key songs

1. Choose the two harmonically simplest songs that you studied in Activities 1 and 2.
2. Using the same process as in Activity 2 of Lesson 6 (Activity 2: Transpose your pieces based on chord functions, p. 57), switch the letter names (with any sharps or flats) of the tonic, subdominant, and dominant chords of the two songs. If the chord qualities are different, keep the original quality of the chord in each song, changing only the letter name (with sharps of flats). (See Example 10.1 (Transposing the Chords of Two Songs in Different Minor Keys).)

3. If either of the pieces uses other chord functions, try to guess the likely name of the transposed chord. Base your guess about the chord’s root name based on the distance of the letter name from the tonic. (For example, a III chord in the key of B minor should be rooted on some version of D.) Again, keep the quality of the transposed chord the same; if it was a major seventh chord, it will still be a major seventh chord in the new key.

4. Play through each song in the new key, checking to make sure that the progression sounds correct. If one of your guesses sounds wrong, try checking other versions of the root note. For example, if a D chord sounds wrong in B minor, a D# chord should sound better. It may help to know that keys rarely contain both sharp and flat notes; they will usually use either only sharp or only flat notes. For example, if you are in a key that features "flat" chords, an A flat chord is more likely than an A sharp chord.

5. Minor keys by nature tend to be more harmonically complex than major keys. It can be harder to find basic three- or four-chord pieces in minor keys, so you may have difficulty transposing some of the chords. Play through the most correct transposition you can manage, leaving out chords or making good-sounding substitutions as necessary, when you are checking to see whether the new key makes the piece easier to play or to sing.

Example 10.1: Transposing the Chords of Two Songs in Different Minor Keys
Here is an example of how to do Activity 3. Notice that both the songs chosen use i, v, VI, and VII chords, so the chords with these functions can be easily "switched" between the two songs. It is also easy to "guess" what the major V and V7 chords should be for Song 1, because they have the same root as the minor v chord.
CHAPTER 10. THEORY FOR GUITAR & AN INTRODUCTION TO CHORD FUNCTION IN MINOR KEYS

Two songs in different minor keys

**Song 1**

<table>
<thead>
<tr>
<th>Em</th>
<th>G</th>
<th>D</th>
<th>Bm</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Em</td>
<td>B</td>
<td></td>
</tr>
</tbody>
</table>

*Alas, my love, you do me wrong.*

<table>
<thead>
<tr>
<th>Em</th>
<th>i</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>III</td>
</tr>
</tbody>
</table>

*to cast me off discourteously;*

<table>
<thead>
<tr>
<th>Em</th>
<th>G</th>
<th>D</th>
<th>Bm</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>B7</td>
<td>Em</td>
<td></td>
</tr>
</tbody>
</table>

*For I have loved you, oh so long.*

<table>
<thead>
<tr>
<th>Em</th>
<th>V/I</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>VII</td>
</tr>
</tbody>
</table>

*Delighting in your company.*

**Song 2**

<table>
<thead>
<tr>
<th>Am</th>
<th>Em</th>
<th>Am</th>
<th>Em</th>
<th>G</th>
<th>Am</th>
</tr>
</thead>
<tbody>
<tr>
<td>Am</td>
<td>Em</td>
<td>Am</td>
<td>Em</td>
<td>G</td>
<td>Am</td>
</tr>
</tbody>
</table>

*Ain't no sunshine when she's gone.*

<table>
<thead>
<tr>
<th>Am</th>
<th>i</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dm</td>
<td>iv</td>
</tr>
</tbody>
</table>

*It's not warm when she's away.*

<table>
<thead>
<tr>
<th>Em</th>
<th>v</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>VI</td>
</tr>
</tbody>
</table>

*Ain't no sunshine when she's gone, and she's always gone too long.*

<table>
<thead>
<tr>
<th>Am</th>
<th>Em</th>
<th>G</th>
<th>Am</th>
</tr>
</thead>
<tbody>
<tr>
<td>Am</td>
<td>Em</td>
<td>G</td>
<td>Am</td>
</tr>
</tbody>
</table>

*Anytime she goes away.*

<table>
<thead>
<tr>
<th>Am</th>
<th>i</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dm</td>
<td>iv</td>
</tr>
<tr>
<td>Em</td>
<td>v</td>
</tr>
<tr>
<td>F</td>
<td>VI</td>
</tr>
<tr>
<td>G</td>
<td>VII</td>
</tr>
</tbody>
</table>

Figure 10.3

Finding the III chord for Song 1 and the iv chord for Song 2 is a little trickier, because you have to guess the root notes. I "guessed" the chords based on natural notes (C for Song 1 and Em for Song 2), because the other chords in the key are natural. If those chords didn't sound right, guessing C sharp or C flat for III, and the E flat or E sharp minor for iv (depending on whether the key features sharp or flat chords) would likely find the correct chord.

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Keys of songs "switched"

**Song 1**

<table>
<thead>
<tr>
<th>C</th>
<th>G</th>
<th>Em</th>
</tr>
</thead>
<tbody>
<tr>
<td>Am</td>
<td>i</td>
<td></td>
</tr>
</tbody>
</table>

Alas, my love, you do me wrong.

<table>
<thead>
<tr>
<th>F</th>
<th>Am</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>III</td>
<td></td>
</tr>
</tbody>
</table>

to cast me off discourteously;

<table>
<thead>
<tr>
<th>Am</th>
<th>C</th>
<th>G</th>
<th>Em</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>V</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For I have loved you, oh so long.

<table>
<thead>
<tr>
<th>F</th>
<th>E7</th>
<th>Am</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>VII</td>
<td></td>
</tr>
</tbody>
</table>

Delighting in your company.

**Song 2**

<table>
<thead>
<tr>
<th>Em</th>
<th>Bm</th>
<th>Em</th>
<th>Bm</th>
<th>D</th>
<th>Em</th>
</tr>
</thead>
<tbody>
<tr>
<td>Em</td>
<td>i</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ain't no sunshine when she's gone.

<table>
<thead>
<tr>
<th>Em</th>
<th>Bm</th>
<th>Em</th>
<th>Bm</th>
<th>D</th>
<th>Em</th>
</tr>
</thead>
<tbody>
<tr>
<td>Am</td>
<td>iv</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It's not warm when she's away.

<table>
<thead>
<tr>
<th>Am</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bm</td>
<td>v</td>
</tr>
</tbody>
</table>

Ain't no sunshine when she's gone, and she's always gone too long.

<table>
<thead>
<tr>
<th>Em</th>
<th>Bm</th>
<th>D</th>
<th>Em</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>VI</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Anytime she goes away.

<table>
<thead>
<tr>
<th>D</th>
<th>VII</th>
</tr>
</thead>
</table>

Activity 4: Transposition Chart for Minor Keys

1. Decide whether you would like to create a separate transposition chart for minor-key chords, or use a single chart that keeps track of the chords in each major key and its relative minor. See p. 70 for examples of what both might look like, but as always, organize the chart(s) in any way that you find easy to understand and use.

2. Construct your minor key chart, or expand the chart you have already been using, to include the transpositions you did in Activity 3 (Activity 3: Transpose minor key songs, p. 66).

3. If you keep separate charts, notice that you can use the information in one chart to fill in any information missing from the other.

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CHAPTER 10. THEORY FOR GUITAR & AN INTRODUCTION TO CHORD FUNCTION IN MINOR KEYS

Minor v and Major V chords

<table>
<thead>
<tr>
<th>Chart 1</th>
<th>i</th>
<th>ii⁰</th>
<th>III</th>
<th>iv</th>
<th>v/V</th>
<th>VI</th>
<th>VII</th>
</tr>
</thead>
<tbody>
<tr>
<td>A minor</td>
<td>Am</td>
<td>C</td>
<td>Dm</td>
<td>Em/E</td>
<td>F</td>
<td>G</td>
<td></td>
</tr>
<tr>
<td>E minor</td>
<td>Em</td>
<td>G</td>
<td>Am</td>
<td>Bm/B</td>
<td>C</td>
<td>D</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chart 2</th>
<th>Major:</th>
<th>I</th>
<th>ii</th>
<th>iii</th>
<th>IV</th>
<th>V</th>
<th>vi</th>
<th>vii⁰</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor:</td>
<td>III</td>
<td>iv</td>
<td>V</td>
<td>VI</td>
<td>VII</td>
<td>i</td>
<td>ii⁰</td>
<td></td>
</tr>
<tr>
<td>C major / A minor</td>
<td>C</td>
<td>Dm</td>
<td>Em</td>
<td>F</td>
<td>G</td>
<td>Am</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G major / E minor</td>
<td>G</td>
<td>Am</td>
<td>Bm</td>
<td>C</td>
<td>D</td>
<td>Em</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 10.5: Both of the charts show the transposition "discovered" in example 1. Only the diminished chord, which was not used in either song, is still missing from the two keys in the chart.

This lesson serves only to introduce minor keys, just as this entire course is only an introduction to the subject of functional harmony. This 8-lesson course is an experiment to test whether some guitarists prefer this approach to learning about and using music theory. There are many concepts from common practice music theory that have not been included. However, there are also other non-standard approaches to teaching theory that I am currently trying (for example, by way of DAW rather than guitar). If you have appreciated this course in particular, and would like more lessons along these lines, please send feedback to the author.
Index of Keywords and Terms

**Keywords** are listed by the section with that keyword (page numbers are in parentheses). Keywords do not necessarily appear in the text of the page. They are merely associated with that section. Ex. apples, § 1.1 (1) **Terms** are referenced by the page they appear on. Ex. apples, 1

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  bass line, 24  
  beat, § 3(15), 16  
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Music Theory for Guitar
This is an experimental course that uses guitar-based (rather than traditional piano-based) illustrations and activities to explain basic music theory concepts. Musical form, rhythm, major and minor chords and keys, melodic phrase, chord function, and transposition are all introduced and illustrated using the guitar fretboard, tablature, and chord symbols, as well as common notation, so familiarity with common notation is not required.

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