



Berklee Online

Music Production

Digital Handbook



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Welcome!

Whether you're looking to jumpstart your career, realize your artistic aspirations, or connect with a musical community, we're excited for you to study with us! Check out the lessons and features in this handbook, and learn how Berklee Online can help you pursue your passion and build your musical future.

All the best,

A handwritten signature in black ink, appearing to read "Sean Hagon".

Sean Hagon

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What Makes a Great Record?

By Dan Thompson

From the Online Course
Critical Analysis of Music Production Techniques

The term **production, or producer**, has always been a somewhat nebulous one, and increasingly can mean a number of vastly different things. Is someone who programs a beat a producer? Yes. Is someone who takes calls, puts together meetings, and gets artists signed to labels a producer? Yes. Is someone who plays bass, co-writes songs, and mediates disputes between band members a producer? Yes. People will often think of production as a technical term, meaning electronic techniques and layered arrangements or effects, as in: “That track is really over-produced.”

The truth is, production can sometimes mean the decision to keep a recorded arrangement as simple as piano and vocal. Producing can also mean streamlining a song structure to more effectively connect with the listener.

 **SUGGESTION:** For instance, take the track, “I Just Don’t Think I’ll Ever Get Over You” by Colin Hay.

Take a moment to find the song online, and listen. How does the track make you feel? Where is the production here?

Obviously, the arrangement is sparse. It's a guy and his guitar, with one overdubbed slide guitar for accents. What is the song about? How does the sparse arrangement reinforce the meaning and intended emotional impact of the song?

The song seems to be about loneliness, about missing someone, a lost love perhaps, and feeling alone. What better way to portray that than through an intimate arrangement and exposed, vulnerable performance? (The lack of obvious audible effects such as delay and reverb also contribute to the intimacy and confessional nature of the track.)

As it turns out, the song is actually about alcohol as much as it is about lost love. The artist, who was the lead singer of the massively successful Australian band Men at Work, lost his marriage and more to his alcoholism. It's not just that he misses his wife, but that he still misses the drink. Is he singing to his ex-wife or his ex-drink?

Did you notice anything else unusual? Listen again and count out the bars. The song is in 4/4, 80 BPM. You may notice that the first two phrases of each verse are truncated, that is, they are three-bar rather than the standard four-bar phrases. To better register

the effect of that decision, open up your DAW and try putting the missing bar back in.

You'll notice two things. With the missing bar(s) inserted back into the arrangement, there is much less forward momentum and it is much easier for the listener to lose interest. The uneven bar count also keeps us feeling somewhat unbalanced, perhaps like someone who is drinking or emotionally on edge. Not to mention the fact that if we were to put all of the "missing" bars back in, we would likely end up with a track that is more than six minutes long.

Additionally, the missing bar also helps to increase contrast. You'll notice that the track is all major, in fact largely the same chord progression throughout: IV V I. But on the third phrase, we get the only minor chord (vi), which also coincides with the extra bar being back in on the arrangement, for both contrast and emphasis on the minor chord. In the most simplistic sense, minor chords sound sad or make us feel sad, major chords are peppier and more uplifting. Interestingly, initially, the singer is trying to convince himself that he is happy, that things are good ("I drink good coffee every morning"), only to have a tinge of sadness creep in thinking about what he has lost ("Without you here there is less to say").

Again, is he singing to his ex-wife, or directly to the alcohol (“I just don’t think I’ll ever get over you”)?

What is the only other place where we get a minor chord? The instrumental bridge, whose whole purpose is to break things up, give us contrast, so that when we come back to the verse-refrain melody and lyric it feels familiar and settled. Satisfying. We move away only to come back home.

In the final verse of the original recording, you’ll notice that the “missing” bar has been added back in, creating a new contrast with the established structure and expectation. As both artists and producers, we need to be attuned to every available opportunity to maximize the effectiveness and emotional impact of song structure and arrangement.

Some Guiding Principles

For the purpose of our learning here, we will use the term “production” to mean any decision or vehicle, whether technical, aesthetic, or even structural/compositional, that furthers the artistic intent and intended emotional impact of a track, or that contributes

to an effective and emotionally impactful finished track. And by “emotionally impactful,” we don’t necessarily mean sad. The track could be moving in any number of ways; it could make you smile, make you uneasy, make you angry, make you want to dance. A track might be superficial from a lyrical and deep-meaning perspective and yet still be a highly effective track, especially when it comes to more groove-based and dance-related genres.

There are a few overarching or guiding principles in producing an effective track that we will return to repeatedly:

Repetition: We as humans are conditioned to respond to what is familiar. The familiar is comforting and offers protection from the unknown or potentially dangerous: a familiar voice, a familiar melody, a familiar face, a familiar chord progression. There is a reason certain chord progressions are used over and over again; they are emotionally grounding and effective. Radio stations have traditionally pushed a relatively limited playlist with certain songs being played even multiple times an hour. We have all likely had the experience of initially disliking a track, only to start responding to it positively after hearing it a certain number of times, sometimes even 10 or more times.

Contrast: We might also label this tension and release, a fundamental concept in music and in other arts. As with repetition, we are also conditioned as humans to respond to contrast. From an evolutionary standpoint, we have evolved to ignore steady state situations (continuous background noise, non-moving objects), but be alert to sudden change or contrast (low growl of the tiger, lion jumping out from behind the bushes). Change puts our senses on alert. In music or music production, this contrast can manifest itself in a number of ways: tempo change, key change, intensity change, major/minor chord area change, density of arrangement, changes in texture, etc.

Arc: The two previous conditions taken together naturally leads us to the concept of the arc of a piece, i.e., how it begins, develops, and ends with respect both to structure (both new and repeated sections, lyrics, rhymes, melodies, hooks) and perceived energy or intensity. We could also describe this as the emotional arc. Every emotional arc needs a climax (or sometimes climaxes), and knowing where the climax is and how to best accentuate it is an important part of crafting an effective track.

Meaning/Message: This is really the uber-principle of guiding principles. Technique and craft do not live in a vacuum, but serve the purpose of the narrative, the song. Just as there is no engineering for engineering's sake (engineering is always ultimately in service of a production goal), there is no production without song and there is no song without meaning or message. With few exceptions, the intended emotional impact is driven and defined by the lyric, the story, and the message (whether literal or emotional). Therefore, whenever we analyze or make production decisions, we want to think of the message as the most important underlying factor in all effective art, whether commercial or not.

So, with the guiding principles of repetition, contrast, arc, and lyrical meaning in mind, let's explore some of the specific elements that go into any technically-, creatively-, and commercially-successful track.

Songs

You will notice that the elements we'll discuss are more or less evenly split between the technical on one hand, and the compositional and performance-related on the other (with the edge to the latter category, if anything). Given all of the resources, both

time and financial, that will potentially be allocated to the technical side (recording, mixing, mastering, marketing), it really makes sense to only fully unleash these once we have maximized the potency of the song and the performance.

We will largely focus on song-based production as the dominant form in modern popular music, including hip-hop, pop, country, rock, and other genres. Rap, it could be argued, is more through-composed, but many of the same principles apply here as well.

We have already touched on some of the structural elements that go into a song, and we'll see standard structures repeated often in popular music. It's one of the things that make popular music, well, popular. The more straight-ahead and commercial the genre, the more likely a track is to conform to expected structural and harmonic norms.

As an example of this, let's have a look at the broad and lasting influence of Pachelbel's Canon in D. It's a classical piece that Johann Pachelbel composed at some point between 1680 and 1706, and its influence can still be heard across various genres of contemporary music. You've likely heard its familiar progression hundreds—if not

thousands—of times without even knowing it. From punk rock, to reggae, to pop, to doo-wop, countless songwriters have relied on its chord progression as the basis for their own iconic songs. The list includes such classics and chart-toppers as:

- “Basket Case” by Green Day
- “No Woman No Cry” by Bob Marley and the Wailers
- “With or Without You” by U2
- “Let It Be” by the Beatles
- “Cryin’” by Aerosmith
- “We’re Not Gonna Take It” by Twisted Sister
- “The Sign” by Ace of Base
- “Graduation (Friends Forever)” by Vitamin C
- “Earth Angel” by the Penguins

Familiarity is important. Ultimately though, we need a balance between the familiar and the unexpected in order to grab the listener’s attention. If the chords are all familiar, then we need to find contrast and surprise elsewhere.

Arrangement

Actually, Pachelbel's Canon in D referenced in the previous example is an interesting study in arrangement, in making a repeated chord pattern (I V vi iii IV I IV V) remain interesting through the course of an entire piece.

 **SUGGESTION:** For another example of the same concept, listen to Marc Cohn's 1990 hit, "Walking in Memphis".

What is the verse chord pattern?

IV V I vi

What is the chorus chord pattern?

IV V I vi

In fact, the entire track has an arpeggiated motif in the piano that repeats this chord pattern over and over again, over a moving but repeated bass line. Literally the only break in this harmonic pattern from beginning to end is the bridge, where the rhythm also changes to a more open texture, pattern, ritard, and fermatta.

So how does the track keep from being completely monotonous? The answer can be found by carefully following the arrangement, where each new element enters. The arrangement progressively builds up, an element at a time. Even the bass entrance is delayed in order to give us an additional opportunity for build. We expect it to enter in the second verse along with the drums, but it doesn't! It waits until halfway through the verse to create its own moment. When all elements are finally in to build to the first climax, the form shifts right to the bridge with a highly contrasting energy, arrangement, and harmonic area.

When thinking about arrangement, we want to revisit the four guiding principles we previously discussed. To review:

- Repetition vs. contrast
- Tension and release
- Emotional arc
- Highlighting the song and lyrics' meaning or message

Besides arrangement, elements like rhyme scheme can also create contrast, tension, and release. Some are more effective than others. For instance, lines that rhyme immediately (a-a-a-a, or aa-bb) do not create much tension. [The letters here represent the last word ending sound of each phrase.]

 **SUGGESTION:** Listen to Justin Bieber’s “Love Yourself” for a good example of this.

On the other hand, a-b-a-b delays the gratification of the rhyme (the initial two lines do not rhyme with each other).

 **SUGGESTION:** Listen to Leon Bridges’ “You Don’t Know” for a good example of this.

And x-a-x-a delays it even further (with the first three lines not rhyming at all [the “x” stands for no rhyme]; the rhyme only finally comes in the last line of the section).

 **SUGGESTION:** Listen to “Fair” by Ben Folds Five for a good example of this.

Compare any of the above examples to the tense feeling that results from a total lack of rhymes. The song has to be really good to get away with this approach:

 **SUGGESTION:** Listen to Radiohead's "Karma Police" for a good example of this.

When working with an artist or on one's own tracks, it is important to be aware of how each of these elements contributes to the overall effect on the listener.

Vocals

Equally important, arguably the most important element, is the vocal itself. Both the vocal timbre and the vocal performance are what draw you into the story, into the track.

Without a compelling vocal, it is very hard to create a compelling track. This means it needs to be performed well, with emotion, and timbrally interesting.

If we think of some of the great singers and artists of our time and times past, they have a number of things in common (besides singing in tune and in time, for the most part).

- Sonically interesting timbre, grit, lilt, character
- Emotional and/or nuanced vocal performance
- Sheer virtuosity in some cases
- Interesting phrasing, playing around bar lines, etc.

 **SUGGESTION:** In addition to the aforementioned vocal qualities, listen to the following tracks by unanimously great singers:

- “Don’t Let The Sun Catch You Crying” by Ray Charles
- “Culpa Mia” by Concha Buika
- “At Last” by Etta James
- “If This World Were Mine” by Luther Vandross
- “Lazy River” by Louis Armstrong
- “Loverman” by Billie Holiday

Billie Holiday is considered the greatest jazz singer in history by some, and she had a very limited vocal range. A great singer, whether technically great or otherwise, speaks straight to the listener's heart. A great vocal can make or break an otherwise well-written, well-crafted record. The exceptions, those singers who are not great singers technically, generally have a very interesting or engaging timbre, or manner, or are simply such great writers that the track survives on the sheer strength of the song itself. You might recognize examples of the latter in a few of the tracks I just suggested.

Dan Thompson is the author of the Berklee Online course from which this lesson comes. Learn how he got on TV by rapping in French on the next page, or learn more about the other lessons in this course by clicking the link below.

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Instructor Spotlight:

Dan Thompson

Daniel M. Thompson is a Latin Grammy Award-winning recording engineer and assistant chair of Music Production and Engineering (MP&E) at Berklee College of Music, where he has taught advanced production, recording, mix techniques, and music technology for more than two decades. His credits include work on *ER*, *The Sopranos*, *Melrose Place*, *NCIS*, and *Monk*.

Dan authored five courses at Berklee Online, including *Critical Listening 1* and *Audio Fundamentals for Recording*.

What is the most important thing you've learned from working as a producer?

Creating a personal connection. When you work with people who you like and you admire, you bring to it your own enthusiasm and integrity. The relationship comes first, and everything comes out of that.

What is your most memorable professional moment?

I had been called in to produce a vocal for *ER*, and the song was both sung in English and rapped in French. I'm bilingual and was asked to rap the French part. It was really fun. When the show came out, they actually used my portion and left the English portion out.

Tell us about winning a Latin Grammy.

A good friend and artist that I've worked with for a long time, Ben Gundersheimer, had a band called the Ben Swift Band. They used to open for Dave Matthews and Phish. Then he took a detour and went into children's music, and has become really big. I worked as an engineer on one of his projects that won a Latin Grammy.



Instructor Insights

Practice Producing ... by Copying

By Erik Hawkins

There's a saying, "imitation is the highest form of flattery." Imitation is also one of the best ways to hone your production skills. Taking the time to pick apart and recreate a song done by your favorite producer is almost like being an intern for that producer. You're

getting the benefit of dissecting the techniques used to produce their unique sound without the hazards of being an actual intern (you'll never be shackled to the coffee maker nor asked to clean up after the band).

When selecting a song to copy, make sure that it is full bandwidth audio (like what you find on an audio CD), not a compressed audio file format (such as MP3 or AAC). You need to be able to hear every nuance of the original production, and a 128 kbps MP3 file just isn't going to cut the mustard: there's just too much audio content missing. You can audition MP3 files to find the song that you want to copy, but when you've identified the song, you should make sure you're listening to the best quality audio available.

The object of copying a song is to get as close to the original sound as possible. However, even though this is a great bar to shoot for, it's not usually possible from a technical standpoint. For example, the producer used a \$20,000 Lexicon 960L reverb unit, and all you have to work with is D-Verb (the Pro Tools factory reverb plug-in). Obviously, the sound isn't going to compare. Fortunately, simply going through the process of copying the song as closely as you can is practice enough. Even if your copy isn't a dead ringer, you'll still

be going through the steps and experiencing the techniques required to create the producer's sound. Of course, ultimately, the idea isn't to become a clone of your favorite producer, it's to learn a variety of techniques and then to apply them in your own unique ways.

Neither is it necessary to copy an entire song, from start to finish. It's fine to copy just a short section of the song. For example, the chorus, the bridge, or simply the intro beat. The production elements that you're wanting to emulate are, more often than not, contained in only a few bars of the music. Copying just a section makes it convenient to loop the part, then beat match your session's tempo to the loop. This also makes comparing your copy to the original song, right in your session, a total snap. Plus, with your session beat matched to the original, it becomes possible to extract the loop's groove (using a tool like Beat Detective in Pro Tools, Get Groove from Clip in Reason, or Extract Groove in Ableton Live) and apply it to your own tracks.

As you start copying a production, you should consider the four areas of music, orchestration, production, and mix. Here are some questions you should ask yourself. (See the chart that follows):

Music	Example Questions
What is the harmonic structure and content of the song section?	<ul style="list-style-type: none"> • What are the chords, and is the bass playing the roots? • How does the melody work with the chords? • Are there harmony parts, and if so, how do they relate to the melody?
Orchestration	Example Questions
What are the instruments?	<ul style="list-style-type: none"> • What kind of drums are being used? Samples with a drum machine or live drummer? • What kind of bass is it? Is it a live bass guitar or a synth? • What instrument is playing the chords, a guitar, a piano, or maybe a synthesizer?
Production	Example Questions
How do the instruments sound? What types of tones and patches are being used?	<ul style="list-style-type: none"> • Is the bass clean or dirty sounding? • Is the guitar an acoustic hollow body or a distorted electric? • What type of synthesizers are being used, vintage hardware or the latest RTAS virtual instrument?

continued on next page

Mix	Example Questions
How does the mix sound?	<ul style="list-style-type: none">• Does the kick drum sound heavily compressed or more open and dynamic?• Are the hi-hats equalized to be very bright and light or dark and heavy?• Is there a lot of reverb in the mix, or just a little?• Is there delay being used, and, if so, is it applied to a lot of instruments, or just a few?

These analytical tactics will help you grow as a producer and make more informed decisions about the projects you work on. They've helped me in the work I've done for television networks and film studios, including ABC, CBS, MTV, Nickelodeon, and New Line Cinema. I have also found this general mindset helpful in the many courses I've authored for Berklee Online, including *Performing with Ableton Live*, *Producing Music with Reason*, *Programming and Producing Drum Beats*, and *Remixing*.



Instructor Spotlight:

Enrique Gonzalez Müller

Enrique Gonzalez Müller is chair of Berklee Online's Music Production grad program. He has worked with Dave Matthews Band, Joan Baez, Tina Turner, Nine Inch Nails, and more. He earned a Latin Grammy for his 2009 collaboration with Los Amigos Invisibles.

At Berklee Online, Gonzalez Müller authored two graduate-level music production courses.

What is the first piece of music that you remember being moved by?

Beastie Boys. *Licensed to Ill.* 1986. At nine years old, it sounded like nothing I'd ever heard. It really just shook something in me and I thought, "Man, there's no rules. You can just express yourself however you want."

When did you realize that production was where you could find a future?

I came to Berklee thinking, "I'm going to be a guitar player." About two months in, I started to, unfortunately, dislike my instrument. So I tried *Introduction to Music Production and Engineering*, and it just felt awesome. It fit my personality really well and I just felt that I could speak.

What is the one release you're most proud of having worked on?

El Paradise by Los Amigos Invisibles. It's the album where I have held myself to the highest standards after teaching at Berklee. I represented them the best that I could to give their fans from the past 25 years something new, and I think that that has been achieved.

Saving Spontaneity on Your Recordings

By Sylvia Massy

From the Online Course

*Sylvia Massy: Creative Approaches to Recording
and Producing Music*

Loosen up your concept of “the studio” and what you can use to record. Challenge what is considered an instrument, and scout unusual places to make noise in. For instance, if you have a singer under the kitchen sink, will they perform differently? If they are outside in a snowbank, will they perform differently? Inventory equipment you can use to record in unusual locations, and figure out how to take advantage of the space you already have.

Gear is amazing, but the real heart of the recording comes down to the people. We love the gear, we love the studios, but the music comes first. In order to create the best recording possible, you must preserve the humanity in the music; this often seems at first like a mistake.

Led Zeppelin’s “Whole Lotta Love” has “mistakes” left in, either purposefully or otherwise. For example, there is a great vocal “pre-echo” that is a technical mistake called “bleed through,” which has now become an iconic part of the recording.

You can clearly hear Robert Plant sing, “way down inside,” before you actually hear him sing it, near the four-minute mark.

To really hear the human making the music is the connection we all subconsciously strive for. When I produced Skunk Anansie's 1995 album, *Paranoid & Sunburnt*, the band's singer, Skin, was emotionally caught up in the performance of "100 Ways to Be a Good Girl." You can hear it in her voice. And even if there were any technical imperfections, we would have kept the take because it is real emotion. In Tool's "4 Degrees," singer Maynard James Keenan makes a grunting noise in the background at 5:30. It was an outtake that I left in the final mix, because it added a realism to the scene.

You should also think how using unconventional sounds will help your recordings stand out and bring more meaning to the music you're making. Just because you don't make these sounds during rehearsal doesn't mean you can't preserve them in your recordings. Scott Walker famously hired a percussionist to drum on a side of pork for his 2006 album, *The Drift*. For sessions with Swedish metal band Avatar, we professionally recorded them slapping their own bare butts at Castle Röhrsdorf in Dresden, Germany for their 2016 *Feathers and Flesh* concept album.

The most important aspects of production are psychological and not technical; focus on your performer's experience in the moment as

much as the sounds they're making.

While listeners may not be able to distinctly hear the sounds of band members slapping their own backsides, they will likely be able to connect on an emotional level with the vibe—people having fun and experimenting within the medium of recording.

Sylvia Massy is the author of this course, along with Chris Johnson, Chrissy Tignor, and Loudon Stearns. Check out her feature on the following pages or learn more about the other lessons in this course by clicking the link below.

Want to explore this course even further?

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Instructor Spotlight:

Sylvia Massy

Known for her playful style and fearless approach to recording, Sylvia Massy is a seminal figure in production for her work in alternative music. She has worked with everyone from Prince to the Red Hot Chilli Peppers to Johnny Cash and Tool. She currently runs her own studio out of Ashland, Oregon, working on select recording and creative projects.

At Berklee Online, Sylvia is the author of the course *Sylvia Massy: Creative Approaches to Recording and Producing Music*.

When did you first become aware of music production?

As a young'un listening to Yes' *Fragile*, when I realized that the layers of vocals on "South Side of the Sky" were all made by one person.

What was the first production job that you had?

I actually started in radio in Oakland. My first music production job was as a staff producer at Bear West Studios in San Francisco.

What is the release that you worked on that you find yourself listening to the most?

The songs recorded with Foo Fighters' drummer Taylor Hawkins are my favorites.

What is your guiding principle as a producer?

One of my most important jobs is keeping the project on schedule. Remember, you are NOT a producer if you don't finish.

What is one valuable piece of music production advice you've kept with you throughout your career?

It's all about the song. If you have a great song, one with memorable melodies, you're gonna win.



Instructor Interview

Royal Production

By Pat Healy

Prince Charles Alexander is a music producer and audio engineer whose clients include Mary J. Blige, Destiny's Child, Faith Evans, P. Diddy, the Notorious B.I.G., Usher, Boyz II Men, Brandy, Babyface, Aretha Franklin, Brian McKnight, and others. He has garnered more than 40 Platinum and Gold certifications from the RIAA and has multiple Grammy Awards and nominations.

He is the course author and instructor for *Commercial Vocal Production*, part of Berklee Online's Master of Music in Music Production program and *Genre Survey for Songwriters: Analysis and Application*, which is part of the Master of Arts in Songwriting program. Alexander is also the co-creator of the *Vocal Production* undergraduate course for Berklee Online. On the Berklee campus in Boston, he teaches *Advanced Production and Mixing* and created the Commercial Record Production minor in that department, for which he received the Don Wilkins Excellence in Curriculum Development Award from Berklee's Professional Writing and Music Technology Division in 2013. To hear more of this conversation, listen to his two-part edition of the *Music Is My Life* podcast, available wherever you get your podcasts, and on the *Take Note* site.

You had met Nile Rodgers while you were touring with Duran Duran as a warm-up act. When you decided to switch from performance to production, I understand Nile was the first person you called.

So I called Nile Rodgers, 10 PM. He answered the phone. He talked to me. I was like, "this is great, just checking in." The next time I call Nile, maybe a couple of weeks later, it's like 12 noon. Nile picks up the phone and answers. And this is not a cell phone. The number he

gave me was the studio number, but I didn't even realize it. Every time I was calling Nile, he was in the studio. So one day, I'm thinking to myself, "Okay, let's deconstruct this: If the end goal is to be as successful as Nile, and Nile is always in the studio, how can you always be in the studio?"

What were the first productions you worked on?

I did a lot of Latin music. Jon Fausty, who's like the king of Latin engineering, was actually my mentor, and that was his home studio, Sound Ideas. So I learned how to record acoustic bass and horns and all of that kind of stuff under the tutelage of Jon Fausty. So my engineering chops are really pristine.

Then you began working with Kashif Saleem, who was known for his groundbreaking work with Whitney Houston. How did that come about?

Kashif and Paul Laurence were also my early mentors when I was in the studio. So I'm like, "I want to be a Black engineer. I want to have Black clientele," and here comes this guy with all this gear in the studio. Come to find out he's a Black producer. His name is Paul Laurence, and he's got like millions of dollars worth of gear. ... After I worked with Paul for a couple of months, Kashif said, "I'm looking

for a guy to work with me at my home studio.” Kashif pulls me out. I’m working for \$800 a week. I’m like, “Man, I’m rich. \$800 a week?” Then we actually pick up and we go to LA, and I’m working like 80 hours a week. ... People work 40-hour weeks, so obviously I’m working twice as long as the average human. I’m working 16 hours a day!



I knew that there weren't that many Black engineers. So I said, 'Okay, I'll use that as a positive.'

- Prince Charles Alexander

You had achieved the engineering schedule that you first learned about from your first call with Nile Rogers! And then what prompted your move to Uptown?

I knew that there weren't that many Black engineers. So I said, “Okay, I’ll use that as a positive.” So what’s the advantage of being a Black engineer? You know Black music. You know the history of Black music probably better than a rock ‘n’ roll engineer who’s going

to engineer Black music. So we'll sell that to Black artists. ... So knowing that I wanted to be this Black engineer offering my services to Black producers, I had to know where the Black producers were. ... There was this fledgling company coming up called Uptown Records. Uptown Records had all the young acts, Mary J. Blige and Father MC and all this cool stuff. ... So this guy wanted to manage me and I was like, "Look, just find me some work." I already had a deal with a manager. So one day, he calls me up and says, "Hey, I'm at Uptown Records and I'm the production coordinator." I'm like, "Production coordinators hire engineers, right?" He said, "Yeah." So he actually helped me start working with Uptown Records.

Tell me about some of the more notable acts you started working with there.

I started working with a group called Jodeci and we had a big platinum record. Then on Jodeci's second record, they wanted to go to another studio. So a friend of mine named Jimmy Douglass had come to my sessions while I was working with Jodeci. He said, "I just can't find any work in New York right now, so I'm going up to this place in Rochester. So if anybody is interested and wants to work outside of Manhattan, send them to Rochester." So Jodeci started to have a big meeting about wanting to work somewhere else. I

said, “Go to Rochester.” So Jimmy Douglass hooks up with Jodeci in Rochester. In the Jodeci camp was a junior producer and a junior vocal group called Sista. Sista had a singer in it called Missy Elliott and one of the junior producers was Tim Mosley, and that became Missy and Timbaland. They actually were formed in Rochester. Jimmy became Timbaland’s engineer for the next 15 years. I’m like, “Dammit, I should’ve done that!” So when they left, the A&R guy for Jodeci came and asked me if I would work on his acts. That A&R guy was Puffy. Puffy was a fan of my work with Jodeci and that began a relationship that lasted for about 10 years.

The whole time when you’re working with these acts, are you realizing that you were in the presence of great talent? Or is it all just part of the job?

I was just doing my job. If they sold records, they sold records. If they didn’t sell records, they didn’t sell records. But they were selling records. They were selling lots of records. I was like, “What the heck?” ... But I did realize that they were selling records and they could afford to pay me a couple of thousand dollars a day to work on these records because nobody could run the large format console. And you get a producer in me, also, because I had learned vocal production by working with Kashif. I had learned song construction

and music by being an artist. So all these things came into play as I'm sitting behind that console.

You've engineered and produced so many people and you've learned from so much experience, are you still learning?

I have been an entrepreneur my whole career, but I wanted to really, really shore it up. I went back in 2012 to get my master's degree in music entrepreneurship and I graduated in 2014, 35 years after I got my bachelor's degree, with a music entrepreneurial degree. It was fun. ... But yeah, the three tiers of it were creativity, technology, and business. The creativity was the first part of my life. The technology was the second part of my musical journey, and then the business is the third part of it. So I'm trying to show a generation of musical people that our instrument is not the be-all-and-end-all of who we are as human beings and our ability to connect to people.



Instructor Spotlight:

Susan Rogers

Dr. Susan Rogers is a professor at Berklee College of Music in the departments of Music Production and Engineering and Liberal Arts. Before her science career, she was one of the world's few women known for her work as a record producer, engineer, mixer, and audio technician. Career highlights include five years (1983-1987) as staff engineer for Prince.

At Berklee Online, Susan authored the courses *Music Cognition* and *Psychoacoustics in Music Production*.

When did you realize you could have a career in production?

I received a Sonny and Cher record for my ninth birthday and on the back was a photo of the recording engineer. I realized that there were ancillary careers in the music industry and it just felt right.

What was the first production job that you had?

At age 21, I began my career as an audio technician at a company called Audio Industries Corporation that sold and serviced MCI consoles and tape machines.

How did you come to work for Prince?

Prince was looking for a technician and he was my favorite artist in the world. I had all his records. I'd seen him tour many times and I got the job as his technician whereupon he then put me in the engineering chair.

What was your working relationship like?

I was constantly aware of how extraordinary he was. It was important for me to not be his friend or collaborator. I helped his work take shape, and that was my role. He valued me because I stayed in those confines.

The Four Vital Roles of a Music Producer

By Sean Slade

From the Online Course
Culminating Experience in Music Production 1

After more than two decades of producing music, I was asked by a colleague to summarize what I find to be the most important duties a producer performs to help artists bring forth their best art. Suddenly I was tasked with figuring out how to explain the art of production in a basic, methodical way, and it was very instructive for me to be forced to codify a form that I knew instinctively. I narrowed the list down to four.

Responsibility No. 1: Schedule and Budget

This one is in the top slot, because the producer's responsibility is to schedule a recording session within the appointed budget and then lead the musicians through that schedule efficiently, thus ensuring the successful technical and artistic completion of the project.

In many ways it is the primary reason you are given the job: you have demonstrated by your work that you are a professional, capable of making a successful record and submitting the finished product exactly on the contractually-agreed-upon date. In the case of a larger commercial recording project for a major label—or a smaller but well-financed label—the completion date is a critical part of a larger

schedule that includes manufacturing, marketing, and publicity schedules that will coordinate to launch the record's release (or "street date"). In the case of a lower budget, "indie," or personal project, having an experienced producer oversee completion is a good idea. They can act as a hedge against the artist insisting on further overdubbing, or endless remixing, which is (unfortunately) the cause of many records never coming out.

So your credo must be "OTOB": On Time and On Budget. Sometimes just "getting it done" can be a Herculean effort—often, the producer must be the one who puts their foot down and says: "It's done!" Also, in many contracts signed with a label, there is a clause stating that if the record goes over-budget, the producer must foot the bill. That's a powerful incentive to be OTOB!

Responsibility No. 2: Shaping the Music

This second responsibility revolves around the question of how a producer takes the raw material of an artist's song and transforms it into a finished recording whose function is both artistic and commercial: it must express the artist's musical and emotional

intent, but must also reach a broad audience.

George Martin opined that the producer is the person “who actually puts the frame around everything, presents it to the public, and says ‘This is what it is.’” It’s the producer’s taste that makes it what it is. The first step in this artistic collaboration begins with a demo. A demo is by definition a demonstration, and it can take many forms: it can be polished or crude, a live performance or a recording; it can be the completely written song form, or simply a sketch of ideas.

Responsibility No. 3: Supervising Performance

The producer must know how to identify and obtain the best performances from the individual members of the group. We’ve now considered two producer responsibilities: the first practical, and the second artistic. Let’s move on to examine and define the third, which combines the practical and artistic towards the physical making of the record: supervising and obtaining the best performances. Let’s simplify the method by dividing it into two parts: identifying the quality takes, and obtaining the best takes. When you produce, you’re making decisions, and a large majority

of these decisions revolve around answering one question: “Was that a good take?”

I always return to the advice of producer Mike Howlett (Gang of Four, A Flock of Seagulls) on choosing “the best take”:

“But what directs that choice? Some of these choices are largely functional—a word or phrase may drift in pitch, or sit uncomfortably in the rhythm of the track—but often it is simply that one particular rendition that moves you, an emotional response is experienced. There is an assumption made that, if it moves you, it can move other listeners. For the producer, trusting this emotional response is a quintessential function. The confidence to say, ‘I like this one,’ is at the heart of a producer’s role. The same critical function is applied at virtually every stage of the recording process. From the decision that a particular backing track performance has the right feeling and energy, to the approval of a guitar solo, and the sound of the various instruments coming through the monitors, all come back to the producer, who must make that judgment.”

Additional Advice: Use your gut and rely on your emotional responses. You’re better off making decisions based on an emotional

intuition, and not on a technical basis. Remember, it comes down to your taste in music. It's that simple.

The key to collecting the best performances from a musician is to empathize with them. What is their state of mind when they play or sing in front of a microphone? If you can imagine that mindset, and put yourself into their shoes, then you are producing. Listen to their needs, almost as if you're a therapist.

But how do you know what each musician is capable of? In order to empathize with a person, you must get to know them. For a producer, that means getting to know their personalities, but more importantly, their strengths and weaknesses, both personally as well as musically. If you know what their strengths are, you can coach them to reach new heights; if you know their weaknesses, you know what not to ask them to do. Nothing can wreck a session faster than producers pushing musicians toward something they're incapable of, or demanding an expression that "isn't them." So you might ask, "How do you know, as producer, what is possible?" The answer: you don't! Working with a performer is always a process of discovery. So don't waste time imagining what will happen; allow your empathetic collaboration to unfold, and you'll find you'll often be surprised by

what an individual musician can do.

At a certain point in any production, you must start working with what you have in front of you. Like a film director in the editing room, you discard all the ideal visions you might have conjured up in your head, and edit the performances that the actors gave you.

Responsibility No. 4: ‘Work vs. Play’

The producer must maintain the subtle balance between the demands of the work and the creative elements that make up compelling music.

We place this responsibility in quotes, because it’s more of a loose concept than an axiom. The title, “Work vs. Play,” applies because much of a recording session is defined by the tension between the “Work,” or the finite task of recording, and the “Play,” which is the creative musical expression necessary to create art. The skilled producer creates a balance between these two oppositions, and does so by manipulating that amorphous idea musicians love so much: The Vibe.

Producer Keith Olsen (Fleetwood Mac) summarizes it well: “You’re responsible for the vibe. Your job as the producer is to guide the creativity, even if it’s only you. When there are too many leaders, the project can, and will, become out of focus. There always needs to be a main decision-maker, but wearing a particular hat and defining everyone’s role is very important and tremendously tenuous. We play music, not work at it, right? First of all, make sure the experience is fun.”

The first thing to do when creating a vibe is to pretend that the work part of the equation doesn’t exist: you are there to play, and record the results. (This also involves making the recording process as invisible as possible.) You, the producer, are of course very aware of the work that needs to be accomplished in each session, but you keep those thoughts to yourself. (“Pay no attention to the man behind the curtain!”) So with that in mind, here are some ways to establish the all-important vibe:

Positive vs. Negative: A playful and fun session rests on a foundation of positivity, optimism, and team spirit. As the leader (or more accurately, the “Coach”), the positive vibe begins with you. I’ve found that a generally affirmative state of mind is infectious,

as you and the musicians agree that “fun” is the goal. Conversely, a negative vibe can stop a session dead in its tracks. If the negativity is coming from a musician, you the producer must diplomatically squelch it, usually by confronting the negative issue head-on, and correcting any problem, real or imagined. And God forbid any negativity should come from you! If you find yourself getting antsy, take a break; food is a good antidote to dubious feelings and/or pessimism. Sometimes it can be very arduous to maintain an “up” attitude, but it’s an important part of the job.

Confidence: Once again, your leadership role is to inspire, and instill in your team the feeling that “everything will work out fine.” If you are well-prepared, experienced, and keenly aware of what needs to be done at each stage of the recording, you’ll have the confidence necessary to . . .

Keep It Moving: All great producers know that constant forward-motion is essential to the production process. (The idea that a shark must keep swimming or risk death is a myth, but an amusing one to consider here.) Moving quickly from one musical task to the next can create its own momentum that lends itself immediately to an uplifting vibe. One way to throw a wrench in these works is

to spend too much time listening to takes: this is precisely when pointless squabbles amongst musicians about musical details arise. As I mentioned earlier, take an approach more akin to filmmaking: “Shoot” as many takes as you need to be satisfied and have strong performances, then sort out the details in the editing room.

The Joy of Recording: Yes, making records is work, but it’s also one of the most enjoyable jobs you can imagine. But you must never lose sight that every recording session is a privilege; a grateful attitude can give rise to fun and laughter as we share in the sheer thrill and endless surprise of music-making.

Sean Slade is the author of the Berklee Online course from which this lesson comes. Learn how he produced Radiohead’s “Creep” on the following pages, or learn more about the other lessons in this course by clicking the link below.

Want to explore this course even further?

Learn More



Instructor Spotlight:

Sean Slade

Sean Slade is an associate professor in the Music Production and Engineering (MP&E) Department at Berklee College of Music. He co-founded Fort Apache Studios in 1985, and has produced, engineered, and mixed records for Radiohead, Hole, Warren Zevon, Lou Reed, Joe Jackson, the Dresden Dolls and more.

Slade authored the culminating experiences in the music production graduate program and the capstone course in the undergrad program.

What is the first memory you have of music?

My absolute first childhood memory was in my grandparents' house, sitting in front of their Webcor record player on the floor. My father taught me how to pick it up, put it back over on the other side and play side two. That was the first time I thought, "This is magic."

Can you talk about your decision to make Radiohead's "Creep" a single?

I remember when I listened to it, I said, "This song is so great, but it's so negative." That's the reason it would be a hit, is because it captured that zeitgeist at that time. It's not negative; it's a guy talking about how proud he is to be negative. And that was very Gen X. That's why it was the right place at the right time.

What is the one record you're most proud of?

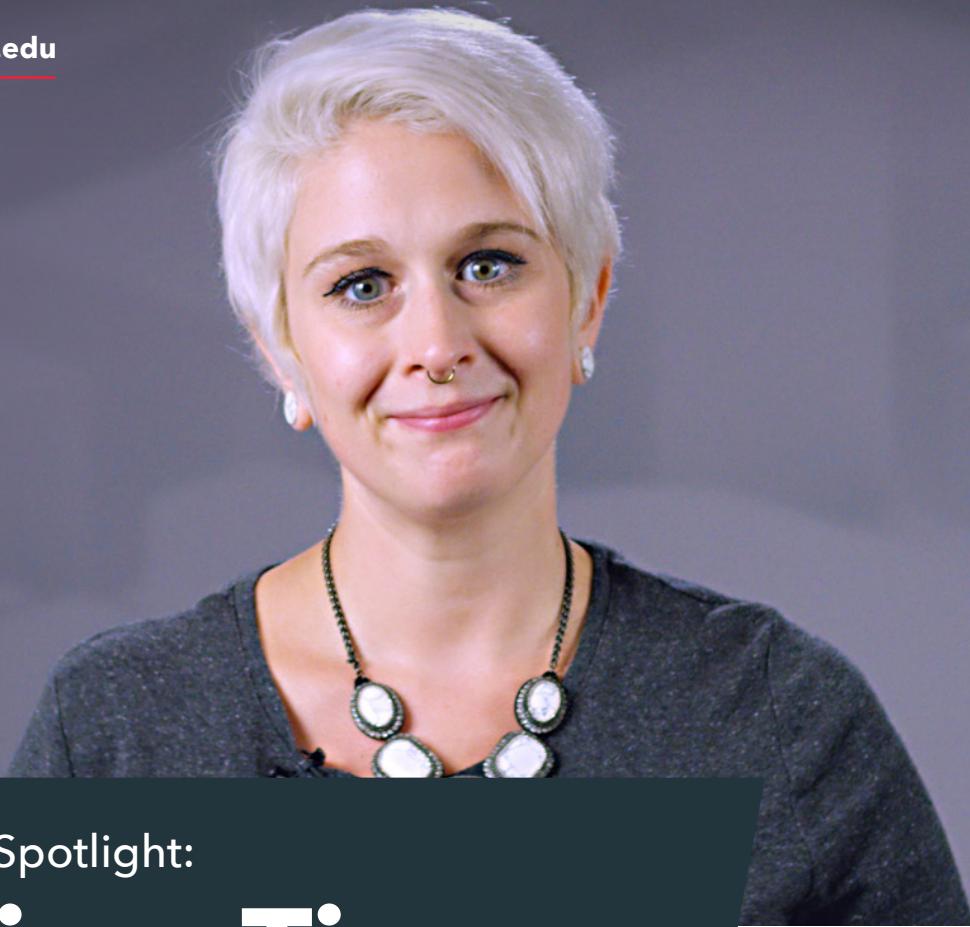
The Warren Zevon album that I did. It's a great selection of songs. But also, he was my idol. The idea that you can enter the business as a kid and have your idols, and then 20 years later you're working with them is bizarre.

World-Class Courses

With Berklee Online, you have more than 200 courses to choose from, including more than 75 music production courses. Here's a look at some selected production offerings:

- **Producing Music with Logic** ↗
- **Art of Mixing** ↗
- **Ableton Live Fundamentals** ↗
- **Music Production 101** ↗
- **Composing and Producing Electronic Music 1** ↗
- **Music Production Analysis** ↗





Instructor Spotlight:

Chrissy Tignor

Chrissy Tignor is a producer, songwriter, recording engineer and vocalist. She is a full-time faculty member in the Contemporary Writing and Production department at Berklee College of Music, and has worked with Alex Clare, Gary Go, Bastille, Lauren Hashian, and more. She currently produces, writes and remixes under the pseudonym Data Child.

At Berklee Online, Chrissy has authored and instructs numerous courses about songwriting and production.

When did you first realize you had a future in production?

When I graduated from my MA at Uni Westminster in London, I still wanted to be an engineer primarily. I realized that most studios and production houses in London weren't looking for engineers...they were looking for producer/engineers. I changed my portfolio to more production examples and I suddenly became more employable.

Which release of your own do you go back to the most?

I'm in love with my most recent Audio Upcycle release, *Sounds of Santo Domingo*. ... I truly love the music and I'm so happy with the way it came out!

What is your guiding principle as a producer?

I believe producers should bring out the best in an artist while staying true to their vision and not overstepping. It's a fine line, but when I produce and the artist can work in this way, magic happens.

What is one valuable piece of advice you've kept with you throughout your career?

Never tune a vocal in front of the singer. Seriously, listen to this advice and send your singers out for a coffee when you open Melodyne and thank me later.



Student Stories

From Student to Working Producer

By Talia Smith

Katie Day is a Berklee alum and a fourth-generation Chicago Cubs fan. In 2015, she set her love for the team to words and music, writing two songs to coincide with Cubs' promising season. Katie's songs eventually landed in the inbox of an ESPN reporter, who sent

them to the DJ at Wrigley Field. The following year, Katie's songs became the victory anthems for the Cubs' 2016 World Series win, their first World Series win in a century.

"I grew up loving this team so much and it seemed impossible for them to ever overcome defeat and finally win," says Katie. "And then when they did, it really did feel like anything was possible."

Katie's songs proved that she could elevate a brand with her compositions, and gave her the confidence to start writing music for advertising. In 2017, she enrolled in Peter Bell's *Writing and Producing Advertising Music* course through Berklee Online. A year later, she happily reported back to Bell that she started her own music production house, Shortcake Music. The work that Katie has done with Shortcake has since been featured in commercials by Dove, *The Sims*, and Arizona State University, among many others.

"I was struck immediately by her positive energy and her talent," says Bell, who has earned two Emmy awards, recorded with Bonnie Raitt, and composed theme music for shows like *This Old House*. Katie and Bell have an ongoing email chain that dates back multiple years.

Katie honed her production and music biz chops right out of high school as a Berklee campus student. By the time she enrolled in Bell's online course, she had spent a decade working as a musician between Nashville and Los Angeles. She could write and produce a catchy track, no problem, but needed ad industry knowhow.



**The good thing about the work
that I'm doing now is that I get to
be in the studio, making music all
the time.**

- Katie Day

“The class covered everything from the music-making to industry standards, in terms of what you’re going to be submitting, what format, and how to deal with the industry people in contract and what’s expected in terms of quality,” she says. “Learning all of that basically gave me the confidence to really do it.”

After the course, Katie and Kyle Vandekerkhoff—a fellow Berklee

alum and sound engineer—collaborated to make the company official, bringing in an engineer and composer. With a few projects on deck, they covered their initial setup costs. And to acquire more clients, Katie pulled from her contacts, reaching out to people who she knew worked in advertising, but hadn't talked to in years. One client came from reaching out to someone she played softball with eight years prior.

"You have to approach all of your relationships maturely because you never know where things are going to lead," says Katie. "You might have to deal with people who you don't think are going to come back into your life, five or 10 years down the road. ... Somebody might recommend you just because they think you would be easy to work with."

Her networking and cold-calling paid off. Katie acquired a number of clients after pitching her services to agencies in New York, San Francisco, and London.

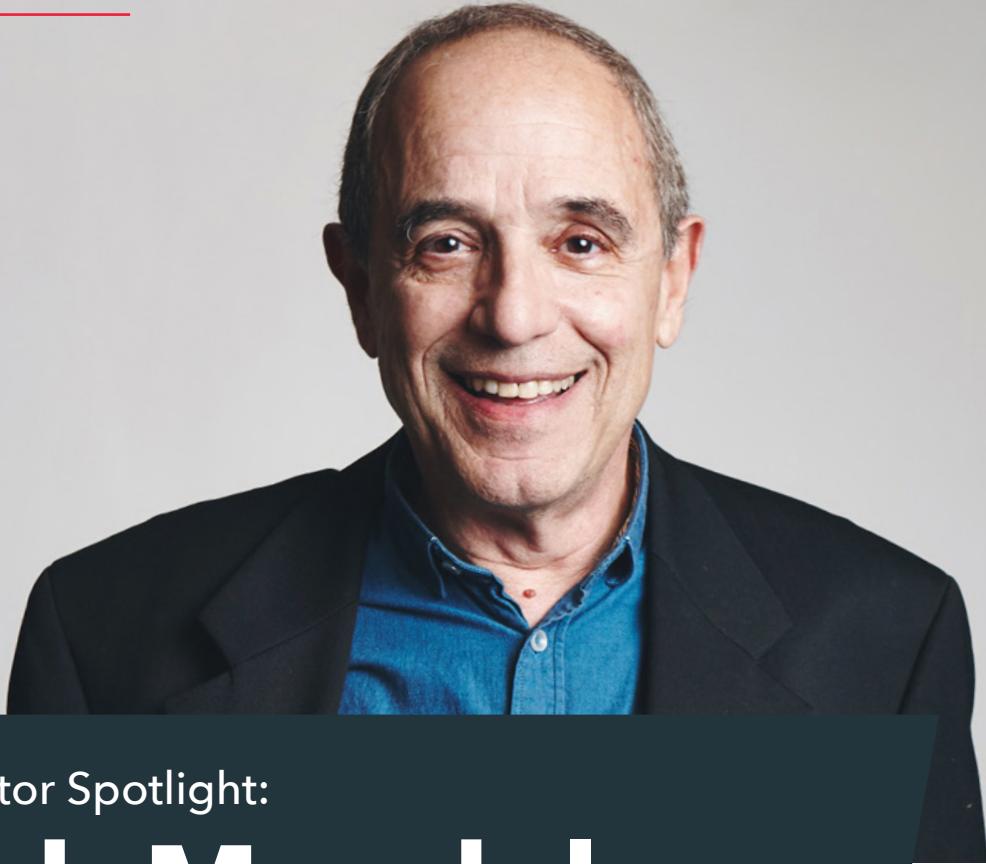
Writing music for advertising has allowed Katie to take control of her work and make a living doing what she loves: making music. She remembers the frustration of licensing deals and the mystery

of where her music would end up. Now she plays an active role in who uses her music.

“The good thing about the work that I’m doing now is that I get to be in the studio, making music all the time, and I don’t have to pay to do it,” says Katie. “I’m getting paid to record. I had a couple of licensing deals when I was an artist and I don’t even know what they did. It was like a wall and I never got to know what was going on on the other side. Now I get to be on that side of it and I get to actually pitch the music and see people’s reactions.”

For other musicians interested in making the leap into writing music for advertising or starting their own music house, Katie suggests just taking the plunge, because there’s always going to be a reason to put it off.

“Just jump in,” she says. “All of this resulted from me putting myself in uncomfortable situations. You learn as you go and you get better at it. If you’re nice to people, good things can happen if you just put yourself out there.”



Instructor Spotlight:

Rich Mendelson

Rich Mendelson is a senior faculty member in the Music Production and Engineering (MP&E) Department at Berklee College of Music. Rich specializes in mixing and recording. His former students include many Grammy-winning mixing and recording engineers, and his work has been featured in recordings by Rihanna, Nicole Scherzinger, Fergie, Garbage, and more.

At Berklee Online, Rich authored the courses *Advanced Mixing Techniques* and *Art of Mixing*.

When did you first realize you wanted to pursue a career in production?

I've been doing this for 45 years, so I have to think back, but I realized it when I was playing in a band and we used to make tapes at home, and they sounded pretty good. I really enjoyed the behind-the-scenes work of recording and mixing and I just had an interest in microphones and mixers.

What were you using when you first recorded your own band?

We were using two reel-to-reel quarter-inch tape decks and Shure 57 microphones. We had a Sony ECM 22P electric condenser mic that ran on batteries. It was 100 bucks, which back then was something.

Who was the first act that you worked with that made you realize that you were at a higher level?

An artist named Andy Pratt, who at that time had a hit record called “Avenging Annie.” He was signing to Atlantic Records, and was produced by Arif Martin, who produced everyone from Chaka Khan, Norah Jones, the Young Rascals, the Bee Gees; everybody.

Music Production Process

By Michael Bierylo and David Mash

From the Online Course
Music Production 101

A musical idea can take many forms, from a simple drum and bass pattern to a complete song with melody, lyrics, and chord changes. How the final product sounds has a great deal to do with musical arrangement and the tools used to produce it.

The steps involved in producing a piece of music are:

Musical Ideas: The song you're going to produce and the instruments you'll use in the arrangement. As a producer, you'll decide the parts that will be recorded and who will play them.

Recording: The performances that make up our musical arrangement are recorded to any variety of hardware devices and software as audio or MIDI data.

Editing: When we use MIDI sequencing or hard-disk recording, the performances we've recorded can be edited in a variety of ways to change either the individual performance or the entire arrangement.

Mixing: The individual tracks that make up a multitrack recording are combined and processed using effects to create a final stereo recording to our song.

Mastering: Where we prepare our finished stereo mix for distribution as an audio CD or a digital file by making final adjustments to the overall sound of the recording.

Creating Musical Ideas

Musical ideas take many forms, but usually start out as a groove, beat, or simple melody and chord progression. From there, a producer makes decisions about how those ideas are to be arranged and developed; i.e., what sounds will be used and what the musical form will be. Along the way, these arranging choices will have a profound effect on how a piece of music is produced.

Let's take a look at different kinds of arrangements and the tools we'll use to produce them.

Types of Arrangements: Vocal or Instrumental?

The first arranging choices to be made are generally whether the melody of the piece will be sung or played by an instrument, and if played by an instrument, which one. In any case, we'll usually have instruments providing accompaniment to the melody.

Take a look at the two following charts to learn more about which specific arrangement will best suit your production.

Vocal Arrangements	Description
Voice with single accompanying instrument	This is the typical starting point for singer/songwriters. The accompanying instrument is often guitar or keyboard or synthesized electronic counterparts of these.
Voice with rhythm section	The accompanying instruments are usually drums, bass, keyboard, and/or guitar or synthesized electronic versions of these.
Voice with rhythm section and an instrumental arrangement	Additional horn, string, or other parts are often added to a basic vocal and rhythm section arrangement to provide a fuller, richer sound. Electronic sounds are often used, such as pads or atmospheric sounds.

Instrumental Arrangements	Description
Solo instrumental	An instrumental sound such as a piano, guitar, or synthesizer plays the melody and accompaniment parts at the same time.
Instrumental melody with rhythm section accompaniment	This is the standard model for jazz, rock, or fusion ensembles, and a possible model for an electronic ensemble.
Instrumental melody with instrumental arrangement	This is typical of traditional orchestral or chamber music, but also can be the formula for a totally electronic arrangement.

Acoustic, Electric, or Electronic Instruments and Production Tools

Once you decide on an arrangement, you choose the instruments. The types of instruments you choose will greatly influence the kinds of tools you'll use to produce that piece.

Acoustic Sources

Performances by vocalists or any type of purely acoustic instrument, such as a piano or drums, need to be recorded as audio. You'll typically need to use a microphone and an audio interface to record these types of performances using a software application such as Reason, Logic, or Pro Tools.

Electric Instruments

Instruments, such as electric guitars, basses, and some electric pianos or organs, are electro-acoustic instruments that need some sort of amplification to be heard. Although these instruments can be recorded using microphones, much like acoustic sources, the fact that they produce an electrical output allows us to record directly to audio recording software. Amplifier modeling technology allows the electronic music producer to record convincing guitar sounds without the need to use a microphone and amplifier.

Purely Electronic Instruments

Synthesizers, samplers, drum machines, and grooveboxes are all examples of purely electronic instruments. Unlike an electric guitar

that amplifies a vibrating string, these instruments produce sound solely through electronic means. More importantly, any recent electronic instrument can be controlled using a communications language called MIDI, the Musical Instrument Digital Interface.

As a producer, you have a wide range of musical choices in producing any piece of music. The instrumentation you choose will often depend on the resources you have available. Fortunately, the hardware and software tools that are available offer a wide range of options for even the modest home setup.

Michael Bierylo and **David Mash** are the authors of the Berklee Online course from which this lesson comes. Check out their bios on the following pages, or learn more about the other lessons in this course by clicking the link below.

Want to explore this course even further?

Learn More



Instructor Spotlight:

Michael Bierylo

Michael Bierylo is an electronic musician, guitarist, composer, and sound designer. He has been a faculty member at Berklee College of Music since 1995 and is currently the chair of the Electronic Production and Design Department.

He authored the *Electronic Music Production and Sound Design Capstone* course for Berklee Online and co-authored *Music Production 101* and *Sound Design for the Electronic Musician*.

When did you realize production was your calling?

I always knew that I would be involved with music and technology in some way, but there was never an “a-ha moment.” It was always there, the question was how I would get paid . . .

When did you figure out the answer to that?**What was your first production job?**

A bandmate of mine had a friend who owned a video post production company. At the time, they were mainly using library music, and I proposed that I could produce custom music for about the same cost. From there, I launched a freelance career producing commercial music.

What is the project that you worked on that you find yourself listening to the most?

I generally don’t listen to music I’ve worked on once it’s finished, but I still enjoy the albums I did with Birdsongs of the Mesozoic.

What’s one piece of advice that you’ve kept with you throughout your career?

If something takes forever to mix, there’s probably something wrong with the music. Fix that, and the mix should be easy.



Instructor Spotlight:

David Mash

David Mash is a recognized expert in music technology, having written nine books on the subject. Before retiring he was Vice President for Information Technology at Berklee College of Music. He has also scored award-winning digital films, and appeared on such programs as *CBS Evening News*, *3-2-1 Contact*, *Newton's Apple*, and NPR's *All Things Considered*.

He co-authored the Berklee Online courses *Music Production 101* and *Sound Design for the Electronic Musician*.

When did you realize that production was where you could find a future?

I first saw myself as an artist who wanted to make recordings but it wasn't until I was in my 30s that I began to see production as a profession that I might enter.

What was the first production job that you had?

I started a production company with my friend and colleague Peter Bell in 1982, called Musitech Productions. We started by making soundtracks for industrials, and gradually moved toward advertising. A year later I started my work to build what is today the Electronic Production and Design Department at Berklee, and Pete continued on to have major success in the commercial music production business. Today we have rejoined forces and have a new production company called "Bar of 2 Productions."

What is one valuable piece of music production advice you've received that you've kept with you throughout your career?

Every part of the sound must be beautiful. Every sound I design and every note I play must be beautiful and that extends throughout the production process.

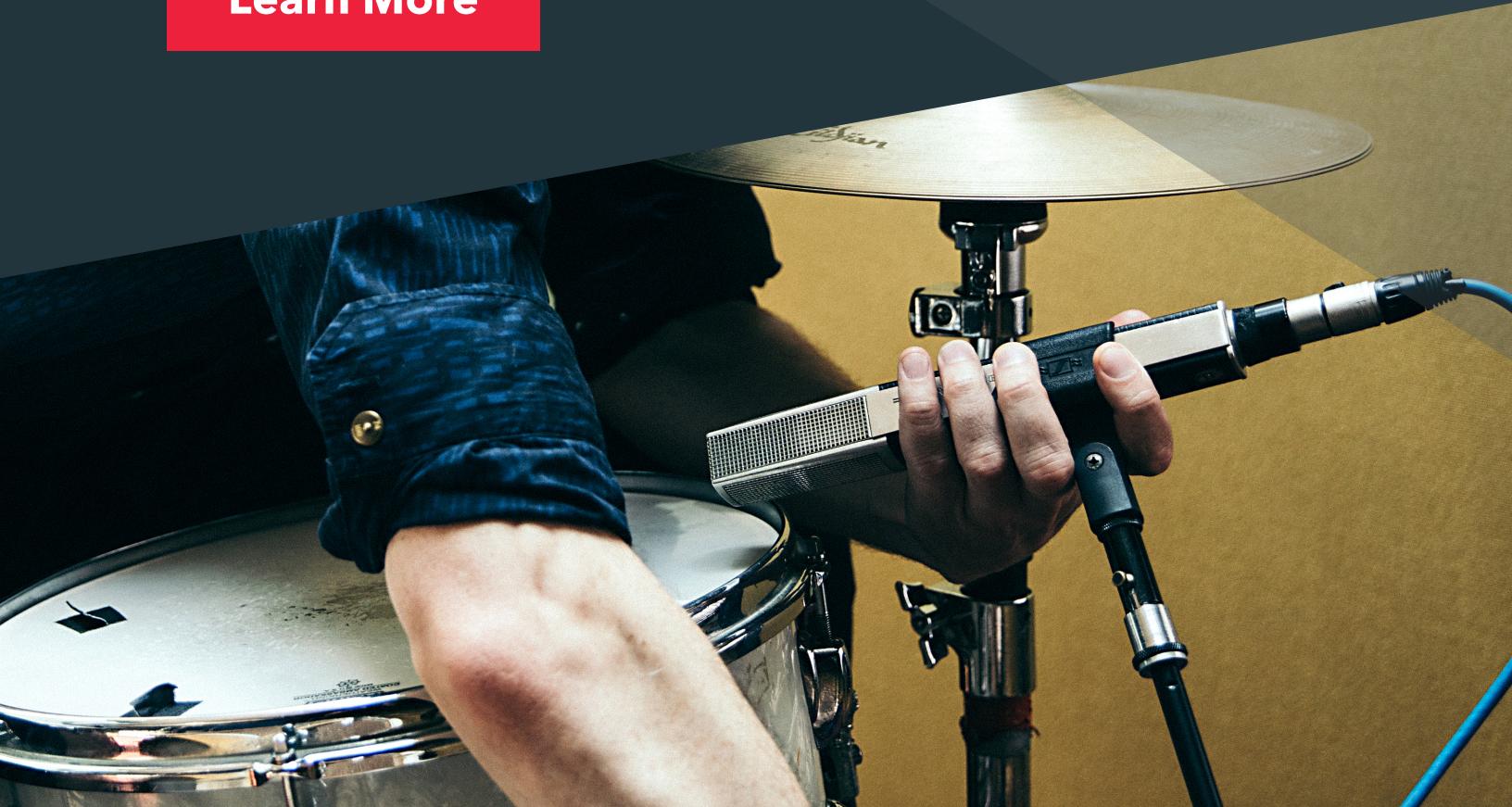
Your Career Path

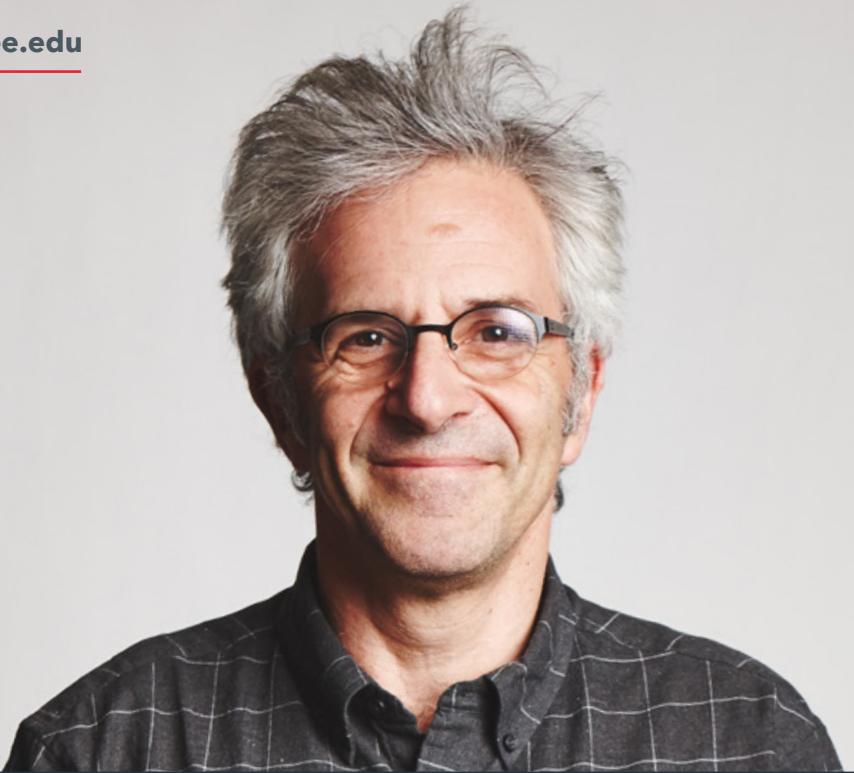
Ever wonder what kinds of music production careers exist? You may be surprised to learn that there's more to it than being a producer. The opportunities are even broader:

Recording Engineer • Sound Effects Editor • Acoustical Consultant • Performing Songwriter • Broadcast Engineer Studio Manager • Mastering Engineer • and more!

Check out our Careers page for more inspiration!

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Instructor Spotlight:

Jonathan Wyner

Jonathan Wyner is an associate professor in the Music Production and Engineering (MP&E) department at Berklee College of Music and owner of M Works Mastering Studios. He has worked with artists such as James Taylor, David Bowie, Aerosmith, Pink Floyd, Cream, Richard Stoltzman, Miles Davis, Nirvana, Aimee Mann, Juliana Hatfield, Tiny Tim, and John Cage.

At Berklee Online, Jonathan authored *Audio Mastering Techniques* and *Advanced Audio/Music Mastering: Theory and Practice*.

For the uninitiated, when does mastering take place in the production process?

It comes on the very back end of any project. At that point, many artists are either tired of the music, or they are thinking about the next thing. So they hand off the project and trust the mastering engineer to interpret and take care of their work.

Is there a benefit to swooping in at the end of a project?

There is, because you bring an informed ear and new perspective, and you're not attached to every decision that went before.

What record are you most proud of in your canon?

The 1912 *Madame Butterfly* recording was really fascinating from a technical perspective. It was 27 sides of transcription platters that I had to de-noise and stitch together.

You've mastered a lot of reissues. Is it intimidating to work on some of these cherished albums?

Yeah, definitely. The stakes are higher. You don't want to drop the tape and you don't want to screw up the master. One of the major themes in mastering is making sure something goes out into the world without flaws.

Improvising in Ableton Live

By Erin Barra

From the Online Course
Ableton Live Techniques: Non-Linear Creative Strategies and Composition

The idea of improvisation is something that a lot of laptop musicians cringe at the thought of. For some of us, the whole idea of being completely in control is what draws us to a Digital Audio Workstation (DAW) in the first place. But in many respects, even when it's just us and we've got a distinct plan in place, much of what we do is largely improvisational. Whether it's the point at which we're picking out a melody, playing around with drum patterns, or twisting knobs until we find just the right setting, we are in fact improvising in those moments. Composition is improvisation, just at a different pace and through a different lens.

Improvising is a state of mind; there are no hard and fast rules and there's no specific way to do it. The only thing that you must do in order to have a successful improvisational session—either with yourself or with another musician—is listen. You have to really use your ears, take in what it is you're hearing in the moment, and act accordingly. That may seem simple enough, but you'd be surprised at how difficult some people find it to be.

On the following pages you'll find some helpful tips about what you need in order to improvise in Ableton Live. But keep in mind that the main thing you need is a sense of openness to new experiences.

Prepared Improvisation

Even though the idea of improvisation is anchored by things happening in real time, prepping the environment you'll be improvising in is pivotal. The last thing you want to be doing is auditioning drum sounds or adding new tracks on the fly, so the first step is to prepare your live set. Here are a few things to consider:

1. What are you good at?

Each of us has a different skill set. Some of us might be strong instrumentalists, others might be more accustomed to clicking MIDI events into sequences and coming up with very precise melodies. Whatever it is that you're good at, incorporating that into the improvisational environment you'll be building will help you to put your best foot forward.

2. What role will Ableton Live play?

Improvising with Ableton Live in the mix isn't necessarily the same as improvising with other traditional instrumentalists. Ableton Live can do so many things for you, so deciding what role the software will play in this is an important step. You could set up the generative functionalities so it's improvising right along with you, or you might

want to use it only as a place to capture what it is that you’re doing. You are only limited by your own imagination and understanding of the software, so consider what role Ableton Live will play in this experience.

3. What do you need to prep in your set?

Depending on what you decide you’ll be doing in real time, you might have a lot to do before you actually get to the improvisational part. Things like adding tracks, choosing and loading the right instruments, routing things properly, MIDI mapping, changing your default settings and preferences, pulling in audio or sequencing MIDI, or creating empty MIDI clips with follow actions. Whatever it is that you need, you need to take care of all of this before you start. Just as if you were a guitarist, you’d need to set up your amp, plug in, tune up, dial in the tone, get your volume just right, and make sure all of the settings on your effects pedals were set just right.

Using Link to Prepare for a Multi-Person Improvisation

Okay, now that you’re ready to improvise, let’s figure out who’s involved. If you do want to bring another person into the mix and

they are also using Ableton Live or an iOS app to make music, you might want to consider using Link. Link is technology that will sync devices together over a local wireless network, keeping them in time with each other. This works from one Ableton Live session to another, as well as between a number of other apps, both desktop and mobile, and even pieces of external hardware, such as an MPC. Or if you're improvising with somebody who is playing a more traditional instrument, you'll want to be even more careful that you're actively listening and engaging with the sounds they're creating, rather than trying to show off all of the bells and whistles you've prepared. Improvising is like a conversation: you talk and listen.

Improvising Alone

Being the only person around when you're improvising is a lot of responsibility because you're the only one making any sound, but for some of us it can be easier to let go and feel free when it's just us. If you decide to go it alone, remember to be yourself and be in the moment, and then to let yourself go and get into the music. Because if you're not into it, you can't expect anybody else to be.

What's Next?

Just keep going and exploring where your ears guide you or your hands fall. The goal is to get into a flow state. Many perceive music technology as rigid and highly structured, but hopefully you'll prove the exact opposite to be true with your music. Whether you're improvising alone or with other musicians, just show up and let the timeline keep running.

Erin Barra is the author of this course, along with Loudon Stearns. Learn how she got started in music production on the following pages, or learn more about the other lessons in this course by clicking the link below.

Want to explore this course even further?

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Instructor Spotlight:

Erin Barra

Erin Barra is a songwriter, educator, producer, multi-instrumentalist, and music technology consultant. She is a leading product specialist for Ableton and works with artists and bands to integrate digital technologies into their writing, production, and stage setups. Erin has worked with Grammy winners like John Oates, George Massenburg, Kathy Mattea, and Elliot Scheiner.

At Berklee Online, Erin has authored and instructs numerous courses about songwriting and production.

When did you first become aware of music production?

My father is an audiophile and works in pro-audio so I always understood that there was an artform that went along with making records. For him it wasn't just about arrangements and songwriting, it was very much about fidelity and excellence. I've carried that with me through my career.

When did you first realize you had a future in production?

I never really intended to produce for a living. I started doing it because I needed to get my music made and I couldn't afford to engage another producer to do it, and I ultimately wanted to be in control of my future. That was around 2010. At one point people were looking to me for guidance and asking me to jump on their projects. Next thing you know, I was producing for other people.

What is your guiding principle as a producer?

Use your ears—plain and simple. People get stuck because they're not truly listening or their ears aren't open enough yet to make proper assessments and decisions based upon what they're hearing. Any producer's real instrument is their ears and the six inches that lie between them, so you need to learn how to properly use them and rely on them.

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