

AJC Audio Engineering Curricula

PROGRAM TOPICS

1. INTRO TO LOGIC PRO X
2. ALCHEMY
3. EQUALIZATION
4. TRANSPOSER
5. ULTRABEAT
6. SCULPTURE
7. HISTORY OF BEATMAKING
8. MIDI CONTROLLER & DRUM
MACHINE
9. PLUG INS
10. MIXING & MASTERING
11. RECREATING A BEAT

AJC Audio Objectives

Each week outlined in the audio engineering curriculum is focused on a different topic or subject. In addition to learning audio engineering software, participants will also learn how to mix music.

In this program, participants will be learning Logic Pro X. Participants will understand a few audio terms in detail, such as EQ, compressor, distortion, and reverb. As your instructor, I will also teach a few plug-ins like Drummer Track, Loop Bowers, Alchemy, Sculpture, Ultrabeat, Arpeggiator, and Transposer. As a participant, you will also be introduced to Distrokid, a digital music distribution service, which will allow you to put your music into online stores and streaming services such as iTunes, Spotify, Deezer, Shazam, and many others. Finally, as a participant, you will learn the basics of mixing and mastering. The beats created during the course of the program could be uploaded onto Distrokid.

Audio Engineering Instructor Responsibilities

- Ensure all needed materials and supplies are prepared and set up for instructions.
- Keep participants engaged during practice, providing constant praise and encouragement throughout the entirety of the instruction.
- Always be patient with Participants and parents. If any issues arise, seek assistance.
- Always maintain a positive environment for Participants.
- Bring a laptop for instruction.
- If you notice some of your participants having difficulty concentrating, provide them with daily assignments or tasks.

Curriculum Vocabulary and Objectives:

Navigating Logic Pro X Mixing Mastering Drummer Track Using Loop Bowers	Registering on Distrokid Alchemy MIDI Controllers / Keyboard Sculpture Ultrabeat	Equalization/EQ Compressor Transposer Distoron Reverb Arpeggiator
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Navigate Logic Pro X

Focus	
Introduction to Logic Pro X	
Content Standards Achieved	
Learning software.	
Objectives	
<ul style="list-style-type: none"> • Participants will begin learning how to use Logic, Pro X. • Participants will register to the service Distrokid. 	
Essential Vocabulary (included but not limited to)	
Logic Pro X	Distrokid

Activities & Procedure
<p>Participants will learn how to input and activate an audio track. An instructor will also teach participants how to use the drummer track effectively, and loop bowers with drop add features.</p> <p>(Reference Videos)</p> <p>https://www.youtube.com/watch?v=7QQN_UFVpbk (Logic Pro X)</p> <p>https://www.youtube.com/watch?v=7QQN_UFVpbk (Drummer Track)</p> <p>https://www.youtube.com/watch?v=Jxy4g9Hzz_c (Distrokid)</p> <p>Logic Pro X Terms: Interface, Top Interface, Main/Project View, MIDI/Piano Roll, Drummer/Software Instruments, Loops, Manipulating Audio Clips, Cycle Tool, Virtual Keyboard, Piano Roll cont., Looping, Recording a Track, Mixing, Signal Flow, Wrap-Up.</p> <p>Participants will register at Distrokid. https://distrokid.com (optional because it costs money, get permission from parents beforehand).</p> <p>Distrokid is a digital music distribution service. Distrokid will allow participants to sell their own music without paying for someone to publish it.</p>



Alchemy

Focus	
Logic Pro X - Alchemy	
Content Standards Achieved	
Learning software.	
Objectives	
<ul style="list-style-type: none"> • Participants will learn how to maneuver within Alchemy. 	
Key Vocabulary (included but not limited to)	
Logic Pro X	Alchemy

Activities & Procedure
<p>Lesson on learning how to use Alchemy (different bass, drums, keys, etc.). Participants will also learn subcategories such as analog, choir, digital, electric, etc.)</p> <p>First tutorial video as part of a series: https://www.youtube.com/watch?v=-Ny2CF9no (Alchemy tutorial)</p>

Materials & Equipment (included but not limited to)
Computer, Logic Pro X



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EQ (Equalization)

Focus	
Logic Pro X - EQ/Equalization	
Content Standards Achieved	
Learning software.	
Objectives	
<ul style="list-style-type: none"> Participants will learn how to use EQ and how to use a compressor properly. 	
Essential Vocabulary (included but not limited to)	
Logic Pro X	EQ

Activities & Procedure
<p>Lesson on using EQ and how to properly use a compressor (as well as benefits of one).</p> <p>Participants should become proficient in using EQ, understanding terms such as: Kick Drum, Clap, Hi-hat, Bassline, Pluck, Equalization, Frequency, Amount, etc.</p> <p>(Reference Videos)</p> <p>https://www.youtube.com/watch?v=bFIg62uoCMc (Introduction to EQ)</p> <p>https://www.youtube.com/watch?v=2oH4YcpyWSs (Basics of EQ)</p> <p>https://www.youtube.com/watch?v=Nx7G-p_My5w (Compressor and Compression Types)</p>

Materials & Equipment (included but not limited to)
Computer, Logic Pro X



Transposer

Focus	
Logic Pro X - Transposer	
Content Standards Achieved	
Learning software.	
Objectives	
<ul style="list-style-type: none"> • Participants will learn how to use the transposer plug-in. • Participants will learn how to use a distortion plug-in. • Participants will learn how to use reverbs in Logic Pro X. 	
Key Vocabulary (included but not limited to)	
Logic Pro X Distortion	Transposer Semitone

Activities & Procedure
<p>Lesson on using the transposer and distortion plug-ins, as well as reverbs in Logic Pro X.</p> <p>(Reference Videos)</p> <p>https://www.youtube.com/watch?v=q5ZPkLpff8Y (Transposer Tutorial)</p> <p>https://www.youtube.com/watch?v=2tvZkUNT8YI (Reverb Tutorial)</p> <p>The instructor will teach Participants how to use reverb with an aux track and discuss the benefits of reverb.</p>

Materials & Equipment (included but not limited to)
Computer, Logic Pro X



Ultrabeat

Focus	
Logic Pro X - Ultrabeat	
Content Standards Achieved	
Learning software.	
Objectives	
<ul style="list-style-type: none"> • Participants will learn how to make their drum beats using Ultrabeat. • Participants will learn how to use Quanze within Logic Pro X. 	
Essential Vocabulary (included but not limited to)	
Logic Pro X	Ultrabeat Quanze

Activities & Procedure
<p>Using Ultrabeat, teaching terms such as claps, kicks, shakers, etc. On Sculpture, Participants will develop new sounds and upload them into their drives.</p> <p>Quantizing involves the rhythmic correction of audio or MIDI regions to a specific time grid. Any notes not played are moved to the nearest position on the grid. You can quantize regions in the Tracks area by using the Quantize parameter in the Region inspector.</p> <p>(Reference Videos)</p> <p>https://www.youtube.com/watch?v=F384QenCHog (Ultrabeat)</p> <p>https://www.youtube.com/watch?v=bg3Df0SB1cE (Ultrabeat)</p> <p>https://flypaper.soundfly.com/produce/what-is-quantizing-and-how-do-i-use-it/ (Audio Quantization)</p>

Materials & Equipment (included but not limited to)
Computer, Logic Pro X



Sculpture

Focus	
Logic Pro X - Sculpture	
Content Standards Achieved	
Learning software.	
Objectives	
<ul style="list-style-type: none"> Participants will learn how to use Sculpture within Logic Pro X. 	
Key Vocabulary (included but not limited to)	
Sculpture	

Activities & Procedure
<p>On Sculpture, Participants will develop new sounds and upload them into their drives.</p> <p>(Reference Videos) https://www.youtube.com/watch?v=KK257WI-Df0 (Sculpture)</p>

Materials & Equipment (included but not limited to)
Computer, Logic Pro X



The Art of Beatmaking - History

Focus	
The Art of Beatmaking - History	
Content Standards Achieved	
Learning the history of beat-making.	
Objectives	
<ul style="list-style-type: none"> An instructor will discuss the history of beat-making and notable DJs and their importance throughout history and the evolution of music. 	
Essential Vocabulary (included but not limited to)	
Beatmaking Jimmy Savile	DJ

(Content References) https://www.rslawards.com/a-brief-history-of-music-production/ The instructor may discuss the evolution of disc jockey, technology, and genre. An instructor may also discuss modern DJs and contemporary genres.	

Materials & Equipment (included but not limited to)
Computer, Logic Pro X



MIDI Controller Key & Drum Machine

Focus	
MIDI Controller Key & Drum Machine	
Content Standards Achieved	
Learning programmable musical instruments.	
Objectives	
<ul style="list-style-type: none"> • Instructor will teach 	
Essential Vocabulary (included but not limited to)	
MIDI controller	Drum machine

Activities & Procedure
<p>MIDI controllers usually do not create or produce musical sounds by themselves. The most commonly used MIDI controller is the electronic musical keyboard MIDI controller. When the keys are played, the MIDI controller sends MIDI data about the pitch of the note, how hard the note was played, and its duration. Participants will be able to connect the MIDI controller to a laptop and practice making beats. Participants may need to have access to audio software.</p> <p>A drum machine is an electronic musical instrument that creates percussion. Drum machines may imitate drum kits or other percussion instruments, or produce unique sounds. Most modern drum machines allow users to program their own rhythms. Participants will practice programming their rhythms.</p>

Materials & Equipment (included but not limited to)
Computer, Logic Pro X



Sampling Law & Using a Virtual Sampler

Focus	
Sampling Laws & Using a Virtual Sampler	
Content Standards Achieved	
Learning sampling laws.	
Objectives	
<ul style="list-style-type: none"> Participants will learn how to import audio into EXS24, modify sound, and create custom drum kits. 	
Essential Vocabulary (included but not limited to)	
	EXS24

Activities & Procedure
<p>(Reference Videos)</p> <p>https://www.youtube.com/watch?v=Uqg-uFDG0do(Using a virtual sampler)</p> <p>https://www.youtube.com/watch?v=RwR5Pcddslc (Sampling laws)</p> <p>Participants will learn how to take parts of a sample and create their own sounds.</p>

Materials & Equipment (included but not limited to)
Computer, Logic Pro X



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Beat Video

Focus	
Creating a new beat.	
Content Standards Achieved	
Applying beat-making skills to video.	
Objectives	
<ul style="list-style-type: none"> • Participants will be assigned or choose a video, and create a beat that goes along with it. 	
Key Vocabulary (included but not limited to)	
Beatmaking	

Activities & Procedure
<p>The instructor is encouraged to find videos that may relate to the clients theme. Videos may be arranged by the instructor (ex. commercials).</p>

Materials & Equipment (included but not limited to)
Computer, Logic Pro X



Plug-ins

Focus	
Logic Pro X - Plug-Ins	
Content Standards Achieved	
Learning software.	
Objectives	
<ul style="list-style-type: none"> Participants will be introduced to a variety of plug-ins not included in Logic Pro X. 	
Essential Vocabulary (included but not limited to)	
Plug-ins	

Activities & Procedure
<p>An instructor may find different plug-ins on websites such as waves.com, sweetwater.com, or soundtoys.com.</p> <p>(Reference Videos)</p> <p>https://www.youtube.com/watch?v=tL6Fy20FXVs (examples of plug-ins)</p>

Materials & Equipment (included but not limited to)
Computer, Logic Pro X



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Mixing

Focus	
Logic Pro X - Mixing	
Content Standards Achieved	
Learning software.	
Objectives	
<ul style="list-style-type: none"> • Participants will learn how to control the volume when creating their beats, incorporating EQ and compression. • Participants will also practice utilizing past techniques learned, such as reverb and panning. 	
Key Vocabulary (included but not limited to)	
Logic Pro X Reverb Panning	EQ Compression

Activities & Procedure
<p>Mixing is the step before mastering that involves adjusting and combining individual tracks together to form a stereo audio file as a mixdown. Balancing the levels of the tracks that have been recorded. Fine-tuning the sound of each instrument or voice using equalization (EQ).</p> <p>(Reference Videos)</p> <p>https://www.youtube.com/watch?v=vry9ZDGr56E (Mixing)</p> <p>https://www.youtube.com/watch?v=5clxt2xacjw (Mixing)</p>

Materials & Equipment (included but not limited to)
Computer, Logic Pro X



Mastering

Focus	
Logic Pro X - Mastering	
Content Standards Achieved	
Learning software.	
Objectives	
<ul style="list-style-type: none"> Participants will practice mastering their beats under the supervision of the instructor. 	
Key Vocabulary (included but not limited to)	
Logic Pro X	Mastering

Activities & Procedure
<p>The mastering stage involves a series of subtle audio processes including equalization, compression, saturation, stereo enhancement, and limiting. The purpose of mastering is to balance the stereo mix, make all the elements sound cohesive, and reach commercial loudness.</p> <p>(Reference Videos) https://www.youtube.com/watch?v=mXR9UFh4scQ(Mastering)</p>

Materials & Equipment (included but not limited to)
Computer, Logic Pro X



Recreating a Beat

Focus
Recreating a beat.
Content Standards Achieved
Applying the skills learned throughout the program towards recreating a beat.
Objectives
<ul style="list-style-type: none"> • Participants will choose their favorite DJ or producer and recreate one of their songs.

Activities & Procedure
<p>On the last day of instruction, Participants share with the class the original song and then share their own. Recreating the whole song is not mandatory, especially if Participants do not have enough me.</p> <p>Example beats for Participants to recreate:</p> <p>https://www.youtube.com/watch?v=S1v_bKbgnQQ</p> <p>https://www.youtube.com/watch?v=RQNHnj1xfrY</p> <p>https://www.youtube.com/watch?v=BrDWPBG3tW0</p>

Materials & Equipment (included but not limited to)
Computer, Logic Pro X

