

This course will enable the individual to be fully prepared to record in today's modern digital audio world. Everything from setting up the users Digital Audio Workstation (DAW) to recording acoustic and electronic instruments will be covered in enough detail to empower the student to record quality tracks. The course will be split 50/50 between lecture/theory and the student's "Hands on Audio" session that allows the student to work with the provided computer, software and recording equipment.

○ **Week 1 – Microphones – Using just a computer, microphone and a guitar player, the student will quickly obtain the useful knowledge and technique to effectively capture the sound of an acoustic instrument.**

1. The Microphone
 - a. History
 - b. Identifying the sonic goals and avoiding unwanted sounds
 - i. Direct sound vs. Distant Sound
 - ii. Background Noise
 - iii. Instrument sweet spots
 - c. Recording vocals
 - i. Pop screens
 - ii. Headphone mixes
2. Microphone types
 - a. Condenser
 - b. Dynamic
 - c. Ribbon

➤ **Hands on Audio – Record Acoustic guitar player demonstrating the following:**

1. Direct instrument sound source vs. Distance/Room sound source
2. Avoidance of unwanted background noise(s)
3. Obtain a quality headphone mix for the performer
4. Obtain a useful sound from instrument

○ **Week 2 – Inputs and Outputs ...Plugging it all in– This lesson will focus on a basic understanding of how audio flows and how to set up one of the most important pieces in the contemporary studio, the audio interface.**

3. Understanding Inputs and Outputs, i.e. Signal Flow
4. Setting up the recording interface

5. Setting levels for optimum sound quality
 6. Cables and standard types
 - a. XLR
 - b. TR
 - c. TRS
 - d. MIDI
 7. Peak metering vs. RMS metering
 - a. Why did the software industry favor the peak meter?
 - **Hands on Audio – Using the provided Apogee Ensemble interface and Mac, setup the computer’s audio interface from default settings and demonstrate the concept of signal flow both inside the DAW and outside utilizing the standard cable types.**
- **Week 3 – Track Types – This lesson focuses on the differing tracks that the student will encounter in his/her recording journey. This lesson will be very hands with the Digital Audio Workstation (DAW) and continues with the basic concept of signal flow. Virtual instruments are explained and brought to the student’s attention. How to utilize them in the contemporary studio will be demonstrated by the student in the Hands on Audio segment.**
8. Differences in track types in the DAW
 - a. Audio track
 - b. Send and return track (aux track)
 - c. Group or buss track
 - d. MIDI/Virtual Instrument track
 - e. VCA track
 9. Understanding Inserts vs. Busses (sends & receives)
 10. Setting up VST’s and VSTI’s and their differences
 - a. Where to put the files in your computer
 - b. Getting sounds out of the them
 - **Hands on Audio – Demonstrate how to quickly setup a VSTi and start making sounds with virtual instruments.**
- **Week 4 – Controllers – Controllers are important for the contemporary musician, there are several different types of Controllers which operate under the same principles. They control the software. A sense of “reality” is imparted in the experience, leading to a more engaging performance for both the listeners and the performer.**

11. Setting up a simple MIDI controller
 12. Different type of controllers
 - i. Keyboard
 - ii. Launch pad/Lemur type
 - iii. Faders
 - iv. Drum pads
 - v. DJ style
 - vi. OSC/touchpad/iPad
- **Hands on Audio – The student will demonstrate the ability to control the DAW and virtual instruments from the controller**
- **Week 5 – Looping and Samples – Looping and Sampling are both art forms unto themselves and indeed, entire courses could be made from each concept. They are entirely creative and serve to enhance the music itself and workflow in the studio.**
13. Looping
 - a. Concept
 - b. How to make your own loops
 14. Sampling
 - a. Historic uses
 - b. Fair use/legalities
 - c. Creative uses
- **Hands on Audio – The student will be provided pre-recorded audio and the student will demonstrate how to effectively create a loop from the provided audio.**
- **Week 6 – Effects – Effects are necessary to manipulating any and all aspects of a given production. The most basic yet useful effects will be gone over in detail.**
15. Effects
 - a. Compressors
 - b. EQ
 - c. Reverb
 - d. Delay
 - e. Chorus

- **Hands on Audio – Demonstrate knowledge and basic concepts presented by using audio already recorded by the student in previous Hands on Audio sessions to enhance and manipulate audio in useful ways.**
- **Week 6 – Mixing – A basic understanding of what goes into mixing is paramount to the Contemporary Studio.**
 - 16. Mixing
 - a. Identifying the mix's goals (i.e., what anchors the low end of the mix, the bass or kick drum?)
 - b. The stereo field
 - c. Mix buss compression
 - d. High pass and low pass filtering
 - e. Reference mixes
 - **Hands on Audio – Listen to the above goals using the provided audio examples and studio equipment over speakers and headphones to demonstrate concepts.**
- **Week 7 – Psychoacoustics – Understanding a couple of tricks that your ears can play on you will prove highly important. We will go into detail on when and where these audio tricks will likely happen and how you can actually harness these effects into your favor.**
 - 17. Fletcher Munson Curve, i.e. the Equal Loudness Contour
 - a. Why this matters
 - i. It significantly changes the way we hear
 - ii. Aurally demonstrate this, i.e. Why it matters
 - iii. Use of compression on bass instrument to leverage the power of the Fletcher Munson Curve into our favor
 - **Hands on Audio – Listening on provided speakers and headphones and demonstration of loudness effects such as compression on audio sources.**
- **Week 8 – Templates – The use of templates can be incredible workflow enhancers. We go into detail of what a good template can be.**
 - 18. Using templates (for speed and efficiency)
 - a. Mixing template
 - b. Tracking template

- c. Composing template
 - d. Mastering template
- **Hands on Audio – Create several templates for different applications using the provided DAW.**
- **Week 9 – Bouncing Audio down – Bouncing down audio is the act of turning all of your processes and processors into a tangible audio file. This can offer huge advantages. Your computer’s CPU can take a break from doing all the heavy lifting. Secondly, bounced down your audio offers a different workflow and is also the final step to being able to distribute your music.**
 - 19. Bouncing Audio – There are many different names used. Here are the most common synonyms.
 - a. Rendered Audio
 - b. Printed Audio
 - c. Freezing
 - d. Summed Audio
 - 20. Bouncing to Wave format and other common format types such as .mp3
 - **Hands on Audio – After experimenting with the lesson plan’s supplied mix, bounce down the mix to stereo .wav and .mp3 files.**
- **Week 10 – Digital Distribution Basics – Delivery of your work is the final step. We will go over making a common CD and also uploading to the web as well as uploading the file to android and iOS devices.**
 - 21. Putting your song a CD
 - 22. Putting your song on the web
 - 23. Putting your song onto a smartphone
 - **Hands on Audio – Using the previous lessons bounced audio, burn the audio to CD, upload the file to Soundcloud.com and finally put the song on the student’s mobile device for easy sharing and copying with friends/family**