

**Course: Tech in Music II**  
**Unit #1: Capturing Audio**

**Year of Implementation: 2019-2020**

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## **Stage One - Desired Results**

**Link(s) to New Jersey Student Learning Standards for this course:**

(<https://www.nj.gov/education/aps/cccs/arts/>)

### **Unit Standards:**

8.1 Educational Technology All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.

1.1.12.B.1 Examine how aspects of meter, rhythm, tonality, intervals, chords, and harmonic progressions are organized and manipulated to establish unity and variety in genres of musical compositions.

1.1.12.B.2 Synthesize knowledge of the elements of music in the deconstruction and performance of complex musical scores from diverse cultural contexts.

1.3.12.B.3 Improvise works through the conscious manipulation of the elements of music, using a variety of traditional and nontraditional sound sources, including electronic sound-generating equipment and music generation programs.

### **21st Century Standards**

<https://www.state.nj.us/education/aps/cccs/career/>

- **9.2 Career Awareness, Exploration, and Preparation**

This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.

**21st Century Career Ready Practices**

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP5. Consider the environmental, social and economic impacts of decisions.
- CRP6. Demonstrate creativity and innovation.
- CRP7. Employ valid and reliable research strategies.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP11. Use technology to enhance productivity.
- CRP12. Work productively in teams while using cultural global competence.

**Transfer Goal(s):** Students will be able to independently use their learning to create high quality recordings that will further the understanding of specific equipment and techniques required for capturing audio.

Enduring Understandings

Students will understand that. . .

**EU1**

experience with proper audio recording techniques enhances the quality of a recording.

**EU2**

with the rise of the personal studio, audio recording is more affordable, accessible and can compare to the quality of a professional studio.

Essential Questions

**EU1**

- What is the best way to impact the quality of a recording?
- What makes a good quality recording?
- How does recording quality influence enjoyment of a piece of music?
- How would George Martin have recorded the Beatles today?

**EU 2**

- How does quality of a recording differ in a personal studio and a professional studio?
- If you were to design a personal studio, what equipment would be essential to purchase?

Knowledge

Students will know. . .

Skills

Students will be able to. . .

EU1

- the recording reproduction chain.
- the difference between a dynamic and condenser microphone.
- various recording techniques based on recording situation.
- the difference between a live mix recording and a live multi-track recording.
- differences between bit rates.
- difference between microphone cables.
- the punch in and overdub process.

EU2

- components of a personal studio.
- components of a professional studio.

EU1

- set up microphones and cables for a recording session.
- choose the correct microphone for the recording session.
- configure the DAW for the recording session.
- determine proper microphone configuration for a recording session.
- identify different microphone polar patterns.
- apply the punch in and overdub processes to an audio recording.
- make a single-track recording.
- record additional tracks.
- record multiple tracks.

EU2

- research costs and reviews of audio equipment.
- evaluate recording equipment.
- prioritize purchases based on given budget.
- design a personal studio.
- create a studio budget.

**Stage Two - Assessment**

Other Evidence:

- Quiz on microphones
- Quiz on recording techniques
- Stage set-up quiz
- Teacher/ Peer Critique of in-class recordings
- Write self-assessment on personal recordings

## Stage Three - Instruction

***Learning Plan:* Suggested Learning Activities to Include Differentiated Instruction and Interdisciplinary Connections: Each learning activity listed must be accompanied by a learning goal of A= Acquiring basic knowledge and skills, M= Making meaning and/or a T= Transfer.**

- Teacher-directed demonstration on the proper way to record audio through an audio interface (A, EU1)
- Teacher-directed discussion on choosing digital audio settings (A, EU1)
- Teacher-directed discussion on proper input and output configurations in a DAW (A, EU1)
- Student activity designing a DAW set-up for a recording session (T, EU1)
  
- In-class group activity capturing a multi-track recording of peers in class (M, EU1)
- Student-paired activity applying prior knowledge to recording each other's voice (M, EU1)
- Student activity analyzing the recording quality of their own voice, at different sample rates (T, EU1)
- Students will write a self-assessment of their recording (T, EU1)
- Teacher-directed demonstration on how to punch in and punch out. (A, EU1)
- Individual student activity punching in proper alphabet letters that were recorded incorrectly. (M, EU1)
- Teacher-directed discussion on the differences between dynamic and condenser microphones, and microphone patterns (A, EU2)
- Student activity analyzing the differences between condenser mic and dynamic mic /. recordings (T, EU2)
- Teacher-directed discussion on the various mic cables and how they properly connect to an audio interface (A, EU2)
- Students will compare/contrast cost and quality of various microphones (M, EU2)
- Individual student research determining equipment cost for recording a symphony orchestra (M, EU2)
- Students will begin recording a live performance by a band or orchestra (T, EU2)