Music Technology II

This class is open to all students in grades 9 -12. This course is designed for students seeking knowledge and experience in music technology. Topics covered include: live sound recording and sound reinforcement; digital recording and midi sequencing; audio engineering and editing; effects processing and microphone technique; music business and commercial production. Students will be using digital audio workstations and a variety of recording studio equipment. This is a one-semester class that meets five days per week.

Prerequisite: Music Technology I is required and a working knowledge of computers is recommended. Previous musical experience is not necessary, but musicians, performers and songwriter will benefit greatly from this course.

Course Overview

Course Objectives

Students will be able to:

- understand midi sequencing.
- understand audio recording & editing.
- understand the acoustic properties of sound.
- understand sound reinforcement and signal processing.
- understand signal flow and audio connections.
- identify connections between music and music technology to related commercial industries and careers.

Essential Questions

- What are some additional applications for music production software?
- How are multi track recordings produced in a studio environment?
- How is audio added to video in a post production environment?

Assessments

- My Ringtone
- Sound for video games
- Tracking in the recording studio
- Multi track remix
- Pop song session
- Sound for video
- Sound for Television Commercial

Content Outline

I. Unit I: Advanced Computer Based Audio Production
II. Unit II: Studio Based Multi Track Recording
III. Unit III: Sound for Film and Video

Standards

Link to Standards (Music 9-12)

Connecticut State Music Standards are met in the following areas:

- ***Composition***
- ***Analysis***

Skill Objectives

Students will:

- arrange music using technology and computer software.
- compose music using technology and computer software.

	• ***Evaluation*** • ***Connections*** Link to Standards (Technology 9-12) Connecticut State Technology Standards are met in the following areas: • ***Definition and Identification of Information Needs*** • ***Application*** • ***Technology Use***	• record music using technology and computer software. • individually and in a group, apply music knowledge and skills to participate in a electronically enhanced live sound event.

Pacing Guide – Music Technology II				
3rd Marking Period			4th Marking Period	
February	March	April	May	June
Unit I Advanced Computer Based Audio Production 6 weeks		Unit II Studio Based Multi Track Recording 5 weeks		Unit III Sound for Film and Video 6 weeks

Unit I - Advanced Computer Based Audio Production, 5 Weeks top

Standards - Music

Composition

Students will compose and arrange music.

Students will:

- compose music in several distinct styles, demonstrating creativity in using the elements of music for expressive effect.
- compose and arrange music for voices and various acoustic and electronic instruments, demonstrating knowledge of the ranges and traditional usage of the sound sources.

Connections

Students will make connections between music, other disciplines and daily life.

Students will:

- apply music knowledge and skills to solve problems relevant to a variety of careers.

Standards - Technology

Application

Students will use appropriate information and technology to create written, visual, oral and multimedia products to communicate ideas, information or conclusions to others.

Students will:

- use in depth applications of appropriate software and hardware to organize, analyze and interpret information.

Technology Use

Students will operate and use computers and other technologies as tools for productivity, problem solving and learning across the content areas.

Students will:

- use content-specific tools and software.
- demonstrate the ability to identify, assess and adapt to new technology tools and resources.

Unit Objectives	**Essential Question**	**Assessments**
Students will be able to: • compose an original ringtone. • create sound files/cues for a video game. • synchronize multiple software programs. • convert audio files of different types.	• What are some additional applications for music production software? **Focus Questions** • What are plugins and virtual instruments?	• My Ringtone • Sound for video games

	• What are the differences between a printed effect, an insert effect, and a send/buss effect? • What are different advanced effects/processor techniques? • How do you troubleshoot latency, audio driver issues, and resource management in digital audio software? • Why is good audio clip/file management important? • What are the various types of audio file formats? • What is ReWire? • What are commercial and career applications for computer based audio production?	
Lesson Plans **Project 1:** *My Ringtone* Students will create an original ringtone and convert to different file types for available download to a cell phone. They will use rewire to synchronize two audio software programs as part of the project. **Project 2:** *Sound For Video Games* Students will create and import the sound files/cues for a given video game. Files will include sound effects, dialogue, and music.	**Materials/Resources** • Various software and hardware manuals • Articles from music/recording magazines • Online music technology forums and manufacturer websites	**Skill Objectives** Students will: • adjust audio settings in music production software. • effectively manage sound files in the digital domain. • effectively use audio plugins, virtual instruments, effects and processors. • convert various audio formats.
Technology Resources • Music Lab • Music Production Software • Video game creation software capable of importing audio files • Internet server for upload/download of ringtones	**Differentiated Instruction/ELL**	**Enrichment**

Unit II – Studio Based Multi Track Recording, 8 Weeks top

Standards - Music

Composition

Students will compose and arrange music.

Students will:

- arrange pieces for voices or instruments other than those for which the pieces were written in ways that preserve or enhance the expressive effect of the music.

Analysis

Students will listen to, describe and analyze music.

Students will:

- demonstrate extensive knowledge of the technical vocabulary of music.

Evaluation

Students will evaluate music and music performances.

Students will:

- evolve specific criteria for making informed, critical evaluations of the quality and effectiveness of performances, compositions, arrangements and improvisations and apply the criteria in their personal participation in music.

Connections

Students will make connections between music, other disciplines and daily life.

Students will:

- apply music knowledge and skills to solve problems relevant to a variety of careers.

Standards - Technology

Application

Students will use appropriate information and technology to create written, visual, oral and multimedia products to communicate ideas, information or conclusions to others.

Students will:

- use in depth applications of appropriate software and hardware to organize, analyze and interpret information.

Technology Use

Students will operate and use computers and other technologies as tools for productivity, problem solving and learning across the content areas

<table>
<tr><td colspan="3">Students will:
• use content-specific tools and software.</td></tr>
<tr><td><u>Unit Objectives</u>
Students will be able to:
• record a multi track rhythm section.
• remix and existing multi track recording.
• perform, record, produce, and mix a recreation of a popular song in a multi track studio environment.</td><td><u>Essential Question</u>
• How are multi track recordings produced in a studio environment?

<u>Focus Questions</u>
• What is tracking?
• What is an overdub?
• How does microphone placement influence a recording?
• What is the importance of sound isolation and acoustical treatments in the recording environment?
• What techniques are involved in the mixing process?
• What are commercial and career applications for multi-track recording?</td><td><u>Assessments</u>
• Tracking in the recording studio
• Multi track remix
• Pop song session</td></tr>
<tr><td><u>Lesson Plans</u>
Project 1: Tracking in the recording studio
Students will study microphone placement, technique and patching as well as studio based recording techniques to record a multi track rhythm section.

Project 2: Multi Track Remix
Students will remix an existing multi track recording. Advanced studio techniques will include track editing, setting levels, track panning, equalization, compression, and effects.

Project 3: Pop Song Session
Students will recreate a popular song by performing, recording, producing, and mixing using the multi track recording studio.</td><td><u>Materials Resources</u>
• Various software and hardware manuals
• Articles from music/recording magazines
• Online music technology forums and manufacturer websites</td><td><u>Skill Objectives</u>
Students will:
• operate a hardware based recording system.
• use advanced microphone techniques to effectively capture varying sound sources.
• record multiple tracks simultaneously.
• demonstrate effective studio practices.</td></tr>
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Technology Resources • Music Lab • Music Recording Isolation Room • Hardware based multi-track mixing system or comparable • Amplifiers • Drum Set • Microphones and Microphone Stands • Assorted connection cables • High Quality headphones • Assorted audio processors • Blank recordable media	**Differentiated Instruction/ELL**	**Enrichment**

Unit III - Sound For Film And Video, 5 weeks top

Standards - Music

Composition

Students will compose and arrange music.

Students will:

- compose music in several distinct styles, demonstrating creativity in using the elements of music for expressive effect.

Connections

Students will make connections between music, other disciplines and daily life.

Students will:

- explain how elements, artistic processes and organizational principles are used in similar and distinctive ways in the various arts and cite examples.
- apply music knowledge and skills to solve problems relevant to a variety of careers.

Standards - Technology

Definition and Identification of Information Needs

Students will define their information needs and identify effective courses of action to conduct research and solve problems.

Students will:

- independently identify and assess existing knowledge related to a given task and articulate information needs to information providers or peer
- determine a course of action that demonstrates the selection of appropriate strategies and resources for accomplishing a task, independently.

Application

Students will use appropriate information and technology to create written, visual, oral and multimedia products to communicate ideas, information or conclusions to others.

Students will:

- use in depth applications of appropriate software and hardware to organize, analyze and interpret information.

Technology Use

Students will operate and use computers and other technologies as tools for productivity, problem solving and learning across the content areas.

Students will:

- use content-specific tools and software.
- demonstrate the ability to identify, assess and adapt to new technology tools and resources.

Unit Objective	Essential Question	Assessments

Students will be able to: • combine audio and video within a digital audio workstation in a post production environment.	• How is audio added to video in a post production environment? **Focus Questions** • What is foley? • What is post production? • What is time code? • How are sound effects, dialogue, and music combined with video to produce a finished product? • What are commercial and career applications for video postproduction?	• Sound for video • Sound for Television Commercial
Lesson Plans **Project:** *Sound for Video* Students will create the sound effects for a short cartoon and sync it with the video clip in a digital audio workstation. In addition they will add dialogue and music. **Project:** *Sound for Television Commercial* Students will create the sound effects, dialogue, and music for an existing television commercial and sync it with the video in a digital audio workstation.	**Materials Resources** • Various software and hardware manuals • Articles from music/recording magazines • Online music technology forums and manufacturer websites	**Skill Objectives** Students will: • import video into a digital audio workstation. • create audio sound effects. • sync audio to video.
Technology Resources • Music Lab • Music Production Software • Portable digital recording unit(s) • Video files	**Differentiated Instruction/ELL**	**Enrichment**