



Torrington High School Music Technology

Overview of the Torrington High School Music Technology Program Torrington, Connecticut 06790 USA

Music Technology I

Music Technology I is an introductory course that exposes students to basic music concepts using the MIDI, Digital Audio and Multi-media applications. Sound Systems, MIDI, Band In A Box, Master Tracks Pro MIDI Sequencing Software, PowerPoint, Sound Forge Digital Audio Editing and ACID Pro Looped Based Creation Software are studied. Music Technology I meets 4 days a week for one semester (half-year). Upon completion of Music Technology I with a C or better students have the option of registering for Music Technology II.

Music Technology II

Music Technology II is an advanced course that explores the real world applications of Music Technology. Radio Commercials, The Art of Foley, Podcasting, Film Scoring and Website Design are all studied using the applications learned in Music Technology I

Music Technology Website.

The Torrington High School Music Technology Website www.thsmusic.net/tech.htm is the online home for daily assignments, student work and more. Over the years the THS Music Tech website has been a resource for music educators from throughout the world with schools from the United States, Canada and as far away as Australia using the website to enhance their curriculums.

Popular Elective.

Each year there is a waiting list for students wishing to take Music Technology at THS. This is due to the hands-on approach and lab setting. Students can use their IPOD/MP3, bring in their guitars, keyboards and use their iPhones to complete their assignments.

I hope you find the lessons below useful for your individual situations. If you have any questions please feel free to contact me.

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Phone: 860-489-2294

Website: <http://www.thsmusic.net/tech.htm>



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Music Technology I Lessons

Unit 1 Sound Systems

This unit will cover the basics of operating a sound system. Topics included but not limited to: Mixers, speakers, microphones, cords, cables, effects processors, recording equipment.

Unit 2 Musical Instrument Digital Interface

This unit will cover MIDI. All the who, what, when, where, and why?
How MIDI is used. What MIDI is and what it is not!

Unit 3 – Software Applications

MIDI and Audio Sequencing

Creating a song from scratch using "Master Tracks Pro

Music Accompaniment – Band In A Box

Audio Editing - "Sonic Foundry's Sound Forge 5.0

Looped Based Music Production – ACID Pro

Grading will be based on homework, class projects, tests and quizzes.

Projects will include:

Creating your own songs

Editing MP3 Files

Podcasting

Soundscapes

Techno/Dance Remixing



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Music Technology I Lessons

Sound Systems.

Musical Instrument Digital Interface

Band In A Box MIDI Accompaniment Software - Introduction

Band In A Box MIDI Assignment # 1 – Improvisation

Master Tracks MIDI Sequencing Software

Master Tracks Assignment # 1 Remix

Master Tracks Assignment # 2 Rhythm Section

Research Assignment - Digital Audio and The Apple IPOD

Introduction to Sound Forge Audio Editing Software

Sound Forge Assignment # 1 - Song Form

Sound Forge Assignment # 2 - Movie Speeches

Sound Forge Assignment # 3 - Soundtrack of My Life

Introduction to ACID Pro Looped Based Creation Software

ACID Pro Assignment # 1- Sound Effects Story

ACID Pro Assignment # 2 - Techno/Remix

ACID Pro Assignment # 3 - Podcast

Final Project/Final Exam - ACID and Art

Music Technology II Lessons

Software Checklist

Research Assignment # 1

Research Assignment # 2

Podcasting

Podcasting Questions.

Podcasting Assignment # 1

Podcasting Assignment # 2

Film Scoring

Film/Music Analysis Project

Film Scoring Listening Journals

Film Scoring Movie Journals

Website Design

Electronic Portfolio – Final Project/Final Exam

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Music Technology I

Lesson # 1

1. Class Overview
2. Class Website
3. Create Network Folders

In your network folder create the following folders:

Create the folder "MUSIC TECH"

Inside of MUSIC TECH create the following folders:

"Sound Systems"

"MIDI/BIAB"

"Master Tracks"

" IPOD"

"Sound Forge"

" ACID"

" Final Project"

Websites for Assignment

http://www.thsmusic.net/sound_systems.htm

<http://www.blobprod.com/mixers/beatbox/beatboxmain.asp>

Unit 1 – Definitions and Questions

Mixer, Powered Mixer, Unpowered Mixer, Channel Strip, Gain, Pan, EQ, Monitors, Mains, Signal Flow, Time Based Effects, Gain Based Effects, Compression, Reverb, Microphone, Dynamic Microphones, Condenser Microphones, Kick Drum Microphone, Parabolic Microphone, Shotgun Microphone, Lavalier Microphone, Wireless, Pressure Zone Microphone, Microphone Pick-Up Pattern, Omnidirectional Microphone, Cardioid Microphone, Bi-Directional Microphone, 5.1 Surround Sound, Stereo

Unit I - Review Questions

1. Name and Describe the two types of mixers studied in class
2. Name the three most common cords used in setting up a sound system.
3. Define: Gain, Pan, EQ,
4. What are monitors?
5. What are mains?
6. Describe the pros and cons of Powered and unpowered mixers
7. After looking at a mixer.....how many knobs do you really need to know?
8. Describe signal flow.
- 9 Compare and contrast the two types of mics talked about today.
- 10 Describe what applications Lavalier, Parabolic and Shotgun mics are used for.
- 11 Why are wireless mics called wireless?
- 12 What are microphone pick-up patterns?
- 13 Describe the pick-up patterns discussed today.
14. Effect: Name the two types of effects studied in class
15. Name 2-3 effects in each type.
16. Name the two types of microphones studied in class.
- 17 Describe how each type of microphone works.
18. Name the microphone used in sporting events?
19. Name the microphone used in talk shows (Hint: Hooks on clothing)
20. Name the microphone that has a small area of reception. (Hint: If this microphone is pointed at one person. It will only pick up that person.
21. AP Music Technology Question: What is the difference between a wireless microphone and a regular microphone?
22. What is Surround Sound?
23. What does 5.1 mean?

Changing the patch in Master Tracks

Go into the piano roll editor F3

On the bottom of the window you will see a yellow triangle

Click and drag the yellow triangle to the measure you want the patch (sound) to change.

Release the mouse and the change instruments window will appear

Select a new instrument and now the track will have a patch (sound) change

Master Tracks Assignment # 2 Rhythm Section

File (each track) must be 12 bars in length

Must use at least 5 tracks

1. Drums
 2. Piano or Keyboard (Take from C Blues file)
 3. Bass
 4. Melody/Solo
- C Blues - download into Master Tracks

File must also show the following:

1. Volume AND Pan Controller Data Changes (#7 and #10)
2. Patch (Sound) Change in the Melody/Solo Track

Helpful Hints for Assignment

1. Record Drums 1st.
2. Practice parts before you record. This will save you time and frustration.
3. Bass track use the following notes
Practice the bass part before you record. This will save you time and frustration.
Keep it simple!
4. Melody Track record last. You can use the same notes as the bass track

Listening Assignment

1st 30 Minutes of Class

Go to <http://www.seeqpod.com>"Seeqpod and/or "<http://www.pandora.com>"Pandora

Listen to various songs and make a list of how the "chorus section" differs from the "verse"

Remainder of Class

Use the list that you made to compose your B Section of Master Tracks # 2

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Research Assignment - Digital Audio and The Apple IPOD

This resource assignment will be about Apple's IPOD and its impact on music and society.

Criteria for Assignment:

1. 30 slide PowerPoint or Website.

PowerPoint must include the following:

30 slides – If you want to make more that is fine.

Photos – to support your topics and information

2. Topics to be included but not limited to:

The Development of the IPOD

Changes the IPOD over the years. Each generation of IPOD, video, etc.

IPOD's impact on society

IPOD's impact on the music industry

IPOD's impact on clothing

IPOD's impact on education

IPOD's impact on Pop Culture

Why is the IPOD so popular? Why does everyone need to have one?

Introduction to Sound Forge Digital Audio Editing

Listen to various song with hidden messages

Stairway to Heaven Backwards

What is backmasking - Backmasking (also known as backward masking) is a recording technique in which a sound or message is recorded backward onto a track that is meant to be played forward. Backmasking is a deliberate process, whereas a message found through phonetic reversal may be unintentional. - From Wikipedia

Click on the Audacity Logo for Free Audio Editing Software!

["http://audacity.sourceforge.net/"](http://audacity.sourceforge.net/)

Sound Forge Assignment # 1 - Song Form

1. Load into Sound Forge 2-3 songs of your choice.
2. Analyze and Label each song for Verse, Chorus, Solo, etc using the marker function in Sound Forge.
3. After you label each song - make a new arrangement of the song by moving the sections you labeled.
4. You can add effects and other signal processing functions as you see fit.
5. Save each song in your network folder as the following:
6. SF Assignment # 1, SF Assignment # 2, etc.
7. Complete the attached worksheet and save to your network folder

Sound Forge Assignment # 2 Speech Editing

1. Go to the Music Tech network folder and/or Internet and listen to the various movie or historical speeches.
 2. Make a new speech by taking words or phrases from the various speeches.
 3. Use at least three effects in the final product. Your choice which ones and where.
 4. File length - 3:00 minutes or longer
 5. Save final product as an MP3 into your network folder.
- Be creative and have fun!!

["http://www.wavcentral.com/"](http://www.wavcentral.com/)Wav Central - Movie and TV Clips

["http://www.americanrhetoric.com/moviespeeches.htm"](http://www.americanrhetoric.com/moviespeeches.htm) American Rhetoric.com

["http://www.moviewavs.com/"](http://www.moviewavs.com/)The Movie Wavs

["http://www.moviesoundclips.net/"](http://www.moviesoundclips.net/)Movie Sound Clips.net

Sound Forge Assignment # 3 - Soundtrack of My Life

Go to the Music Tech network folder and listen to Billy Joel's "It's My Life"

2. Bring in at least 8 songs (MP3 format) that represent your life at various stages. Major Events - first car, first job, relationships, high school, etc.
3. Create one file in Sound Forge that contains parts of your music to create a musical timeline of your life.
4. Save project into your network folder

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Introduction to ACID Pro Looped Based Music Creation Software

Listen to music created using ACID Pro at "www.acidplanet.com

By the end of the period you should be able to do the following in ACID

Import Loops

Paint Loops

Change Tempo of File

Change the Grid Spacing

Envelope Changes

Change the Pitch of File

Edit Loops in Chopper

Import Loops into Sound Forge and Edit

ACID Pro Assignment #1 Sound Effects Story

Sound Effects Story

Using parts of a short story or poem you will "tell" the story or poem using only sound effects and music. **NO WORDS**

1. Review your story or poem and make a list of all words/phrases you want to enhance using sound effects.
2. Using the sound effects ACID folder and effects found online "tell" your story in ACID.
3. Create a musical bed for your story using ACID loops.
4. Add your sound effects in as many different tracks as needed.

Criteria

Story must be at least 2-3 paragraphs in length

The musical bed must contain at least 10 loops.

You must show volume and pan changes

You must edit one loop using the Chopper Function

You must use the Pitch Shift function on at least one loop

Render the final product as a MP3

You can search online for a story/poem OR write your own

Horror and/or Sci-Fi stories will work the best



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ACID Pro Assignment # 2 Techno/Dance Mix

Create a two (2) minute ACID File.

Criteria

1. Must be at least 2:30 minutes in length.
2. Must include at least 15 loops
3. Must show volume and pan envelope changes
4. Must edit 2 loops in the Chopper.
5. Final product must be rendered as an MP3.

Make Your Own Drum Loops!

Use "[GrooveLab - The Drum Machine](#)

Create your own drum loops and save as .wav into your network folder

ACID Pro Assignment # 3 – Podcasting

What is a Podcast? "Podcast" means a specific type of Broadcast, where the Work is incorporated into a file (which may contain one or more works and/or other material) which may be played on an iPod or similar device by individuals who have downloaded such file.

Create a 2 minute Podcast using ACID PRO

Topic: Your choice - School group, sports team, music group, etc

Structure of Podcast: your choice

If your Podcast is about a music group - use music from that group as well as ACID Loops

If your podcast is about anything else you must use ACID Loops as your musical bed.

Narration: Use USB microphone

Final Product must be rendered as a W AV

1. Search the Internet for podcasts. Listen to various podcasts for structure
2. Make a list of good and bad for each



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Final Project/Final Exam ACID and Art

You will search the Internet for a piece of Artwork that you will use as the basis for an ACID Pro file

1. Search the Internet for a piece of Artwork. Ex. Painting, sculpture, etc.

Criteria for ACID File

1. Must be at least 2:30 (2 minutes and 30 seconds) in length.

2. Must have at least 15 loops

3. Must show volume and pan envelope changes

4. Must edit at least 2 loops in the Chopper

5. Final product must be rendered as an MP3 or WAV.

6. Must write a 2-4 page paper that includes the following:

a. Information about the Painting, sculpture, etc.

b. Why did you select this specific piece of Art.

c. How does the music you created reflect your Art.

Final Project is due on/or before your final exam period.



Music Technology II Lessons

Software Checklist

Band In A Box Assignment # 1

Take the chord progression provided and enter the chords into BIAB. Generate a solo and save as a Standard MIDI File

Master Tracks Pro Assignment # 1

Using Audio - compose a 24 bar project that contains the following:

1. Drum Track
2. Keyboard Track
3. Bass Track
4. Guitar Track
5. Any other track you wish
6. Must show controller usage 7 & 10 (Volume and Pan) in all tracks

Sound Forge Assignment # 1

1. Find 4 MP3 files and edit them into one track. Take parts from each MP3 to paste into a new file.
2. Show fade in and fade out
3. Show effects and EQ
4. Use compression
5. Export as a MP3.

ACID Pro 4.0

Compose a 2 minute project that contains the following:

1. Minimum of 15 loops from the Music Technology Network Folder
2. Create volume and pan envelopes on each track
3. Use effects
4. Render as a MP3.

No one will be allowed to move to the next Unit until all of the above has been completed.

Research Assignment # 1

1. The Phonograph (Talking Machine, Record Player) impact on the music industry and society.
2. The Apple IPOD's (MP3 Player) impact on the music industry and society.

Your research assignment should include (but not limited to) the topics below.

Compare and contrast the differences between Edison' Phonograph and Apple's IPOD

Discuss the how each changed how people listened to music.

Discuss the technology involved in each device.

Discuss how the music industry was influenced by each device.

Discuss cost and improvements made to each device throughout the years.

Length: - Minimum 2 pages, double spaced, 12 point font.

Papers can be emailed to "Mr. S - Microsoft Word format only

Strange Fact: You can listen to your IPOD or other MP3 players in your car BUT did you know in 1956 which car company had an option for an in car phonograph?

Research Assignment # 2

Select a piece of Music Technology (software, hardware, recording, performance, storage, etc) and discuss its impact on the music industry.

Length: - Minimum 2 pages, double spaced, 12 point font.

Papers can be emailed to Mr. S - Microsoft Word format only

Radio Commercial Assignments # 1, # 2 and # 3

#1 - Product, #2 Buisness, # 3 Any topic you wish

1. Commercial can be completed using ACID PRO 4.0
2. Commercial must be exactly 45 seconds in length.
3. Commercial must have an original music bed. Meaning no CD's
4. Any sound effects that you use **MUST** be created from scratch and you must complete a "sound effects write-up form for each effect used.
- 5 The music bed must show volume and pan envelopes.
6. Script must be original and not copied from any other source.
7. Final product must be rendered as an MP3 and saved to your network



Podcasting Questions.

Answer the questions below by reviewing the website on the Music Technology II Assignments Page.

1. Define what a Podcast is.
2. Why are they called “Pod”casts?
3. What was the first Podcast?
4. Define RSS and Atom. Why are they important to Podcasting?
5. Name five uses for Podcasting.
6. Describe the benefits of using a Podcast. (This is your option)

**Listen to four (4) different podcasts of various topics. (Sports, Music, etc)
Search the Internet and/or use links on Assignment Page.**

Podcasts must be clean and appropriate for school use.

Podcast Number _____

Name

Website

Content or Topic of Podcast

What is the structure of the Podcast?

In your opinion, do you like the Podcast? Yes or No? Explain why and give examples

What would you do different if you had to create this same Podcast?



Podcasting Assignment # 1

Topic of your choice

Length: 2:00 minutes

Structure: Of your choice – Listen to podcasts for examples

Bed: Loops for introduction and exit. Body must have music

Cue Sheet: Podcast cue sheet must be handed in

Final Product: Will be uploaded to website

Podcasting Assignment # 2

Create an original podcast for a THS group.

See Mr. S for choices.

Film Scoring

Today you will start to study the world of Film Scoring. How does music enhance what is on the screen? How can music tell you what is going to happen? How does music make you feel during the movie?

Blog - Online Journal - You will be required to keep a journal of every movie studied in class.

Listening Journal will be required for each composer and soundtrack studied..

The Functions of Film Music

Listening Journal - Should include tracks: 1, 5, 8, 16

Recordings can be found on our website and Music Tech Network Folder

Chapter 3 - "[Music for Silent Films 1895-1927](#)

Film Scoring Test # 1 - Friday Jan 11, 2008 - Functions of Film Music

Journal Check on Friday - must include "[Listening Sheets](#) for tracks 1,2,3,5,8,11,16

"[Chapter 3 Questions](#)



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Functions of Film Music Assignment # 1

Review the videos on the Functions of Film Music page on the website and write about the following for each function (1,2,4,6,7,10)

1. List all the elements of tension and relaxation that you hear in each.
2. In your opinion does the composer create the correct mood ?
Please explain why or why not.

Friday January 11, 2008

"Test: Functions of Film Music - Be able to define each AND give an example.

Due: "Chapter 3 Questions

Due: Journal Check "Listening Sheets for tracks 1,2,3,5,8,11,16

Mid-Term Exam Study Guide

Monday January 28, 2008

Music for Silent Films 1895-1927

Listening due on Friday February 1, 2008

Tracks 1, 2, 3, 4

Chapter 4 Questions

Wednesday February 13, 2008

Scoring Project: Looking Glass with Final Cue Sheet Completed

Start analyzing King Kong 1933

March 12, 2008

"Film Analysis Project

In class presentations will start on Monday April 7, 2008



Music Technology II Instructions for Film/Music Analysis

Movie must have an original score. No exceptions.

1. Watch the film numerous times. Take notes during at least one viewing. You will want to listen for the following. Make sure you include them in your paper and Presentation
 - a) The instrumentation and "sound" that has been chosen for the music track: eg., big orchestral symphonic sound emphasizing the orchestral string section; big orchestra with frequent emphasis on the brass (trumpets, French horns, trombones); a jazz, swing-era type dance orchestra; a solo piano; acoustic or electric guitars; rock instrumentals; synthesizer sounds (describe)
 - b) the principle types of Foley/sound effects used to create atmosphere: eg., urban sounds (traffic, cars honking, the roar of engines, the noise of crowds); rural and nature sounds (wind, rain, night insects, birds, rustle of branches); and don't forget the dramatic use of pure silence.
2. You will want to concentrate your efforts on the musical accompaniment to one or two scenes of the movie. No more than 10 minutes total. The best scene(s) to use are the turning point or moment of crisis, usually located somewhere toward the midpoint of the film.
3. Find what you can about the film and its music using sources such as the Internet Movie Database (<http://us.imdb.com>): the year of the film, the director, the country and production company, who the composer is, something about the composer if you can, and any details about the soundtrack (for example, a list of songs used).

Criteria for Movie Music Analysis

Paper

5-10 Pages. Double Spaced. 12 point font. Use the questions below to complete your paper.

5-10 pages does not include works cited page.

Writing your paper.

Title your paper: A discussion of the soundtrack to [Name of Film] [(Year of film)]

Give YOUR OWN synopsis of the story in no more than two short to medium sized paragraphs (no more than one double-spaced typewritten page).

The film features a musical score by _____. He/She is.

Music occurs (throughout the film intermittently only at certain dramatic moments) and occupies about (25%? A third? A half? 75%?; 100%?) of the total running time.

The score is characterized by (what kinds of instruments predominate?).

Distinct from the musical score provided by the composer, the film also uses several popular songs which appear as "source" insertions in the film. For example

Discuss the scene showed in class.

This film score is (typical, or unusual of its period?)

In my opinion, what works best my overall estimation?

In Class Presentation

15-20 minutes in length. (Video/DVD and/or Audio Clips cannot take up the entire time)

Must include Video/DVD Clips and/or Audio Clips

Use the questions above to structure your presentation,



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Electronic Portfolios Final Exam

This assignment will take the form of a website. This website will include all the topics studied in the course. Each topic will have its own page:

1. The Art of Foley - Sound Effects/Soundscapes
2. Jingle/Commercial
3. Film Scoring

Each page must include the following:

1. sample files of your work. MP3, Word Doc, etc.
 2. Descriptions of the topic.
 3. What software you used to complete the assignments and how you used it.
 4. What I learned during this unit.
 5. Resource links for topic (ex. links to movie studios, jingle houses, etc.)
- Be as detailed as you can. This will be your last grade for the class. Impress me!
For this assignment you will be using Microsoft Front Page.

Criteria for Topic Pages

Home Page - Your home page should include a description of Music Tech II, links for the following pages:

1. Sound Effects/Soundscapes, 2. Jingles/Commercials, 3. Film Scoring.

Each page must include

Description of the topic with historical information and links to websites. Make each page so that someone not in this class can find out as much information as possible about each topic. Include as many samples of your work as you can. MIDI files, MP3, Scoring Assignments, etc.