

DIGITAL MEDIA 1

AUDIO, 105.00-105.02

OVERVIEW AND OBJECTIVES:

- 105.00 Apply audio procedures to create digital media. (10% total)
- 105.01 Understand concepts used to create digital audio. (5%)
- 105.02 Apply procedures to create digital audio. (5%)

MATERIALS:

- 105.01 Audio Concepts Notes
- 105.02 Audio Procedure Notes
- Blackboard Class Site
- Skeleton Notes Packet
- Class Blackboard Site
- iMac computers
- Internet
- LCD projector
- Microsoft Word
- Elements
- Garage Band
- Monster Truck Project Rubric and Directions
- Monster Truck Audio Files
- Monster Truck Script
- Billy Bob Project Rubric and Directions
- Billy Bob Audio File
- Billy Bob Script
- Album Group Project Rubric and Directions
- Album Group Project Group Assignments
- Album Group Project Peer Evaluation Form

ESSENTIAL QUESTION:

- *What are the basic concepts used to create digital audio?*
- *What are the basic procedures for producing digital audio?*

ESTIMATED TIME TO COVER:

- 105.01: 5% - 5/90 days
- 105.02: 5% - 5/90 days

Scales

- *Note: Estimated time is based upon the fact that 5% of the end-of-course questions will come from this objective. Some objectives may require more or less than the estimated time based on the lessons and activities.*

105.01 EXPECTED OUTCOMES:

Upon completion of this objective, the student will be able to:

- ✓ Understand the basic concepts of digital audio.
 - Definition of digital audio
 - Historical development of audio
 - Use of digital audio
- ✓ Understand basic concepts of audio editing.
 - Importing Resources
 - Developing an Audio Project
 - Sample Rate
 - Sample Size
 - Audio Channels
 - Cutting
 - Splicing
 - Pasting
 - VU Meters
 - Adjusting Audio Volume
 - Saving
- ✓ Understand factors that determine audio file size.
 - Sample Rate
 - Sampling Size / Audio Resolution
 - Number of Channels
 - Time Span of the Recording
- ✓ Streaming Audio
 - Streaming
 - Compression
 - Codec
 - Transcoding
 - Bandwidth
- ✓ Identify types of digital audio equipment and understand their proper use.
 - Computer and/or Mobile Devices

- Microphones
 - o Condenser
 - o Dynamic
 - o Piezoelectric
 - o Wireless
- Speakers
- Headphones
- Cables / Connectors
 - o RCA
 - o XLR
 - o Mini
 - o 1/4"
 - o Fiber Optic
 - o Firewire
- ✓ Identify types of microphone directional pickup patterns.
 - Omni directional (all)
 - Cardioid (heart-shaped)
 - Hypercardioid (shotgun)
- ✓ Identify types of audio file formats.
 - MP3
 - WAV
 - MIDI
 - AIFF
 - AAC
 - WMA

EXPECTED OUTCOMES FOR 105.02:

NOTE: Procedures for creating digital products can vary widely, depending on whether the end product is audio, video, graphic, animation or website. The terminology used to describe those procedures in the “real world” also changes depending on the work environment. The lingo varies from studio to studio, office to office or newsroom to newsroom.

Scales

For purposes of consistency from objective to objective within this course, this curriculum refers to the same four-phase process for producing a digital media element, regardless of the end product. The four steps are **planning, preparation, creation, and distribution**. The intent of this approach was to emphasize a logical ‘rhythm’ for getting things done.

Once in the workplace, students may more commonly hear terms like “pre-production” and “post-production,” especially if they’re in a studio environment. It is a good idea to let students know workplace terminology may be different. But the goal for students in this course is first and foremost to understand that professionals don’t just get an assignment and start creating a product; there is a logical order in which to think through the purpose and identify the target audience, plan for needed time and resources, brainstorm and storyboard, create the product and then get it in front of the intended audience. These materials aim to lay out a logical sequence of events for each element. The concepts of thinking through a project before you create the product are of primary importance.

Upon completion of this objective, the student will be able to:

- ✓ Apply procedures to plan for digital audio
 - Define target audience
 - Brainstorm – write down ideas
 - Coordinate location needs
 - Coordinate equipment needs
- ✓ Apply procedures for technical preparation for digital audio
 - Scriptwriting
 - Reasons for the script
 - Commercial – What is the product?
 - Entertainment (movie, music, play, sports) – What is the story?
 - Information/educational – What needs to be conveyed?
 - News – What happened?
 - PSA – What is the message?
 - Write the script
 - Select equipment (equipment considerations)
 - Location – Where will the microphones be used?
 - Type of audio recording – people, vocals, instruments?
 - Computer/software
 - Type of microphones
 - Is it loud or crowded? – cardioids
 - Is the audio source far away? – shotgun/hypercardioid
 - Are there many audio sources to capture simultaneously? – omnidirectional
 - Do the microphones need to be unseen? – visibility

- Types of cables/connections

- XLR
- RCA
- Mini
- ¼"
- Audio board/ mixer
- Speakers

- ✓ Apply procedures to create digital audio

- Record audio

- Connect proper equipment (mic, audio boards, hard drive, MIDI)
- Check audio levels – adjust as necessary
- Record each person and/or instrument on a separate channel (if possible)
- Make sure levels do not over modulate (distortion)
- Begin recording and cue the talent

- Edit audio

- After recording, save
- Import any additional files needed
- Cut, splice, trim, edit and assemble as necessary
- Add effects (only if they do not detract from the message)
- Add background music
- Adjust each track's level as needed
- Save

- ✓ Apply procedures to prepare digital audio for distribution

- Export (determine the file format needed)
- Determine the distribution type (CD, DVD, Internet download/streaming)

TEACH 1: AUDIO CONCEPTS

- Bellwork: Students will have a Bellwork assignment each day they must complete in the first 5 minutes of class in a Word Document. They must record the date, the question and their answer; these are submitted each Friday for a Bellwork grade. Bellwork answers are reviewed each Friday.
- Explain that we will be examining Audio in this unit.
- Direct students to log on to their computers, go online, and log into Blackboard. Once there they need to launch the Audio Concepts Notes.

- Hand out the Notes Packet for students to use while discussing the unit, these will be due on test day and students should use these for note taking and study purposes.
- Begin Notes, explaining each slide in detail with examples. Students will listen to explanations, read online notes, fill in Notes Packet worksheets, answer oral review questions, and participate in class discussion on Animation.

TEACH 2: ALBUM GROUP PROJECT

- Students will be divided into groups of 3 or 4 (depending on class numbers) to create together an Album. As a group students will decide on a theme and genre for their album, flow of the music, album cover and inserts. Each group must choose a different genre of music.
- Students will create 2 songs each that are a minimum of 1 minute and 30 seconds long.
- The students in the groups will work together to produce their final Album, after creating the cover and the back of the CD, burning the album to a CD, they will put it together to turn in.
- After completion of the Project, each student will fill out a Peer Evaluation form for each member of their group, including themselves. These evaluations will account for 25% of their project grade when the scores are averaged from the forms.

Class Website Directions:

- **Album Group Project**

You have decided to start your own music group with a couple of your classmates (3 students per group - open this Project Folder to view group assignments). For this project, you will join forces with your band mates and create an album filled with all original audio productions that you create in GarageBand. Your music group will also design an album cover and track list using Photoshop.

Each group member must create at least TWO original audio productions in GarageBand. You will use the loops provided by the software. Each individual song must end up being at least 1:30 long. Collaborate with your group members to make sure all of your group's songs fall under the same genre of music!

Each group member must also take part in designing the album cover and track list in Photoshop.

One member will design the front graphic.

One member will design the back graphic.

And one member will design the track list text.

You may use pictures or graphics that you download from the internet, or we can take photos of your group members to include on your album. Collaborate with your group members to make sure all of the album cover designs fit well together and portray your type of music group accurately!

After your group has completed all of the original songs and designed the album cover, use GarageBand to export each song in MP3 format and give it a descriptive name. Place all of the songs on one computer and burn the entire list of MP3s to a CD (given to you by Ms. Scales). Your group will also print out your album cover design and assemble the pieces into a finished album. Check the rubric provided below to make sure your group's album is meeting all of the project requirements! Submit your finalized group album to Ms. Scales for grading. Finally, complete the Peer Evaluation Survey located in this Project Folder.

- Grading Rubric:

ALBUM GROUP PROJECT RUBRIC

Name _____	Group _____	Period _____	Date _____
ORIGINAL SONG PRODUCTION (50 PTS.)		SCORE	POSSIBLE
Each Original song is at least 1 minute and 30 seconds long			15
Each original song utilizes at least 5 different tracks			15
Each original song mimics a real-world audio production			15
Each original song fits into the group's overall genre of music			5
ALBUM COVER (20 PTS.)			
An original, creative, properly designed album cover has been created			10
The entire album cover (graphics and text) achieve overall unity			10
GROUP RATING AND FINAL COMPOSITION (10 PTS.)			
Songs were exported in the proper format (.mp3) and burned to a CD			2
Burned CD and printed album covers were properly assembled			3
Your score from the Peer Evaluation Survey			25
Total Score			100

Peer Evaluation Form:

Album Group Project: Peer Evaluation Survey

Fill out each response. BE TRUTHFUL IN YOUR RESPONSES - YOUR EVALUATION OF YOUR TEAMMATES IS TOTALLY ANONYMOUS!

What period are you in Ms. Scales' Digital Media I class? _____

What is your group's name? _____

What is your name? _____

Which teammate are you evaluating with this particular survey? _____

This member contributed ideas to the group during brainstorming sessions.

1 2 3 4 5

Disagree ☐ ☐ ☐ ☐ ☐ Agree

This member completed assigned tasks in a timely manner.

1 2 3 4 5

Disagree ☐ ☐ ☐ ☐ ☐ Agree

This member cooperated well with the other members of the group.

1 2 3 4 5

Disagree ☐ ☐ ☐ ☐ ☐ Agree

This member did his or her fair share of the project.

1 2 3 4 5

Disagree ☐ ☐ ☐ ☐ ☐ Agree

This member added to the overall success of the project.

1 2 3 4 5

Disagree ☐ ☐ ☐ ☐ ☐ Agree

ADAPTATIONS/MODIFICATIONS:

- Teacher Copy notes will be provided as needed.
- Modified Assignments for testing, classwork, and homework will be provided as needed.
- Extended time and separate setting on assignments and tests will be provided as needed.
- All information, class notes, and assignments are available on class website for all students.
- Study guides prior to assessments/test will be provided as needed.
- Extra help and tutoring is available during SMART Lunch each week on Tuesdays and Fridays, and other days if requested by student.
- All materials are put on Blackboard for easy accessibility by students.

EXTENSION OF LESSON PLAN:

- As students need or want more practice in Photoshop, they will be able to access a variety of different activity assignments they may complete that will allow them to critically think, be creative, and produce a product independently.
- Students may challenge themselves to go beyond the tutorials and minimum requirements to enhance their classwork and projects.

ASSESSMENT:

- Students will be tested using an Element/teacher made test to evaluate understanding of material covered.
- Students will complete daily Bellwork to demonstrate their understanding of material covered in class.
- Students will complete Garage Band Projects to demonstrate their ability to apply the knowledge gleamed in the completion of the tutorials to a unique and creatively driven assignment without having the steps provided to them.
- Students will complete homework summaries to demonstrate understanding of material outside of class.