PUBLIC SCHOOLS OF EDISON TOWNSHIP
DIVISION OF CURRICULUM AND INSTRUCTION

INTRODUCTION TO MUSIC TECHNOLOGY

Length of Course: Semester (Full Year)

Elective / Required: Elective

Schools: High Schools

Student Eligibility: Grade 9-12

Credit Value: 5 credits

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Modifications will be made to accommodate IEP mandates for classified students as well as differentiated instruction for students who have varying levels of music technology experience.

STATEMENT OF PURPOSE

Music and Visual Arts are a significant and integral part of our culture. It is therefore, the responsibility of every visual art and music educator to help students become more appreciative of all styles. Doing so will contribute to the success of the students as we forge ahead into the millennium.

The High School Music Technology Program is passionate about providing a variety of opportunities to its student musicians. Music is everywhere, in all nations and cultures, in all segments of society, media, and nature. Whether it's serving the community at local tree-lightings, township parades, or competing at local and statewide festivals (concert, marching & jazz), the students are dedicated to interacting with the world around them as well as with the person within.

Music is a natural form of expression of the human spirit that nourishes the mind, body, and soul. Ever committed to a well-rounded music education, the High School Music Technology Program develops its students into well-rounded, innovative human beings.

Our school district provides an extensive arts program, which will enable students to succeed and compete in the global marketplace using the New Jersey Core Curriculum Content Standards in conjunction with the New Jersey Visual and Performing Arts Curriculum Frameworks and technological exploration.

In addition, the purpose of the High School Music Technology program is to introduce and foster the study and practice of where the technology and music worlds intersect. This program can serve all of the following: the student with no prior musical experience, for students who already study an instrument in the school system, for students who take private lessons or for students who have learned about music or an instrument in a less formal fashion.

This program seeks to expand the students' horizons as far as musical taste and exposure, while honoring the need for reciprocity. Students will be provided hands-on experience with the technology in order to gain a first hand understanding of the cutting-edge innovations that exist in the Music Technology realm. They will be able to demonstrate how technology can be used to aid in the recording and presentation of acoustic instruments as well as how electronic music can be produced or recorded. Such music creation will be explored for the variety of purposes in which it can be heard today: live performance, recorded performance, as a soundtrack to videos footage, along with other inventive avenues.

This curriculum guide was prepared by:
Raul Huaman, John P. Stevens and Edison High Schools

Coordinated by: Robert Pispecky, Supervisor of Music and Visual Arts

Introduction

The most precious resource teachers have is time. Regardless of how much time a course is scheduled for, it is never enough to accomplish all that one would like. Therefore, it is imperative that teachers utilize the time they have wisely in order to maximize the potential for all students to achieve the desired learning.

High quality educational programs are characterized by clearly stated goals for student learning, teachers who are well-informed and skilled in enabling students to reach those goals, program designs that allow for continuous growth over the span of years of instruction, and ways of measuring whether students are achieving program goals.

The Edison Township School District Curriculum Template

The Edison Township School District has embraced the backward-design model as the foundation for all curriculum development for the educational program. When reviewing curriculum documents and the Edison Township curriculum template, aspects of the backward-design model will be found in the stated enduring *understandings/essential questions, unit assessments,* and *instructional activities*. Familiarization with backward-deign is critical to working effectively with Edison's curriculum guides.

Guiding Principles: What is Backward Design?   What is Understanding by Design?

'Backward design' is an increasingly common approach to planning curriculum and instruction. As its name implies, 'backward design' is based on defining clear goals, providing acceptable evidence of having achieved those goals, and then working 'backward' to identify what actions need to be taken that will ensure that the gap between the current status and the desired status is closed.

Building on the concept of backward design, Grant Wiggins and Jay McTighe (2005) have developed a structured approach to planning programs, curriculum, and instructional units. Their model asks educators to state goals; identify deep understandings, pose essential questions, and specify clear evidence that goals, understandings, and core learning have been achieved.

Program based on backward design use desired results to drive decisions. With this design, there are questions to consider, such as: What should students understand, know, and be able to do? What does it look like to meet those goals? What kind of program will result in the outcomes stated?   How will we know students have achieved that result? What other kinds of evidence will tell us that we have a quality program? These questions apply regardless of whether they are goals in program planning or classroom instruction.

The backward design process involves three interrelated stages for developing an entire curriculum or a single unit of instruction. The relationship from planning to curriculum

design, development, and implementation hinges upon the integration of the following three stages.

Stage I: Identifying Desired Results: Enduring understandings, essential questions, knowledge and skills need to be woven into curriculum publications, documents, standards, and scope and sequence materials. Enduring understandings identify the "big ideas" that students will grapple with during the course of the unit. Essential questions provide a unifying focus for the unit and students should be able to more deeply and fully answer these questions as they proceed through the unit. Knowledge and skills are the *"stuff"* upon which the understandings are built.

Stage II: Determining Acceptable Evidence: Varied types of evidence are specified to ensure that students demonstrate attainment of desired results. While discrete knowledge assessments (e.g.: multiple choice, fill-in-the-blank, short answer, etc…) will be utilized during an instructional unit, the overall unit assessment is performance-based and asks students to demonstrate that they have mastered the desired understandings. These culminating (summative) assessments are authentic tasks that students would likely encounter in the real-world after they leave school. They allow students to demonstrate all that they have learned and can do. To demonstrate their understandings students can explain, interpret, apply, provide critical and insightful points of view, show empathy and/or evidence self-knowledge. Models of student performance and clearly defined criteria (i.e.: rubrics) are provided to all students in advance of starting work on the unit task.

Stage III: Designing Learning Activities: Instructional tasks, activities, and experiences are aligned with stages one and two so that the desired results are obtained based on the identified evidence or assessment tasks. Instructional activities and strategies are considered only once stages one and two have been clearly explicated. Therefore, congruence among all three stages can be ensured and teachers can make wise instructional choices.

At the curricular level, these three stages are best realized as a fusion of research, best practices, shared and sustained inquiry, consensus building, and initiative that involves all stakeholders. In this design, administrators are instructional leaders who enable the alignment between the curriculum and other key initiatives in their district or schools. These leaders demonstrate a clear purpose and direction for the curriculum within their school or district by providing support for implementation, opportunities for revision through sustained and consistent professional development, initiating action research activities, and collecting and evaluating materials to ensure alignment with the desired results. Intrinsic to the success of curriculum is to show how it aligns with the overarching goals of the district, how the document relates to district, state, or national standards, what a high quality educational program looks like, and what excellent teaching and learning looks like. Within education, success of the educational program is realized through this blend of commitment and organizational direction.

COURSE OBJECTIVES

Students will:

1. Discover how technology is used in the production of music. Discover how technology fits invisibly into the recording and production of non-electronic and electronic music.
    - To utilize music as a form of communication, self-expression, and creativity.
    - To enjoyably develop a sense of the disciplined process and to reap the rewards of learning about music.
    - To express thoughts, ideas and emotions through a musical means.
    - How technology aids in live music performance: the synthesizer & other MIDI controllers.
    - Proper management, care and operation of music technology devices and peripheral equipment.

    National Standards: 6, 8 & 9
    NJCCS: 1.2.12.A.2, 1.3.12.B.3, 1.4.12.B.3
    21st Century Skills -- Critical Thinking and Problem Solving: use systems thinking. Communication and Collaboration – Communicate Clearly: Utilize multiple media and technologies, and know how to judge their effectiveness a priori as well as assess their impact. Information, Communications and Technology) Literacy - Apply Technology Effectively.

2. Develop a conceptual and deep framework of knowledge and understanding surrounding the legal and ethical issues of digital music creation, sharing, distribution and consumption. As well as know or be able to:
    - How to share, purchase and sell digital music responsibly.
    - What "fair use" is.
    - Understand the concept of intellectual property.
    - Take a critical and informed stance on the use and commerce of digital music. To appreciate the historical context and social significance of music.

    National Standards: 6, 8 and 9
    NJCCS: 1.2.12.A.2, 1.2.12.A.1, 1.4.8.A.3
    21st Century Skills: Financial, Economic, Business and Entrepreneurial Literacy. Critical Thinking and Problem Solving – Make Judgments and Decisions. Information Literacy – Access and Evaluate Information.

3. Produce basic-level music technology projects such as Mash-ups and Podcasts.
    - Use entry-level music technology programs to create new original projects.
    - Learn how original music creations can be made on the computer by using pre-recorded music.
    - How to import, modify, combine and save pre-existing sound files.
    - How to operate a Digital Audio Workstation (DAW), specifically Pro Tools Express.

    National Standards: 2, 3, 4, 6 & 7
    NJCCS: 1.1.12.B.1, 1.2.12.A.1, 1.3.12.B.1, 1.3.12.B.3

21st Century Skills -- Media Literacy: Create Media Projects. Life and Career Skills: Initiative and Self-Direction. Productivity and Accountability: Manage Projects and Produce Results.

4. Begin to understand the vast science of sound and sound transmission. Identify and explain the nature and behavior of sound as a mechanical wave and describe how sound may be transmitted via mechanical and electronic means.
    - Examine various methods of sound transmission and analyze benefits and limitations of various methods.
    - Compare and contrast various methods of sound transmission used in common modern consumer electronics.
    - Evaluate methods of sound transmission for various real-world applications in terms of practicality, reliability, and versatility.

    National Standards: 6 and 8
    NJCCS: 1.3.12.B.3, 1.4.12.B.3
    21st Century Skills – Critical Thinking and Problem Solving: reason effectively, use systems thinking & make judgments and decisions. Information Literacy: access and evaluate information.

5. Sound Reproduction - From Edison to MP3. Identify and explain the mechanics of sound reproduction and explore history of recorded sound. To develop a rich understanding on the nature of recorded sound, including stylistic and historical traits and cultural preferences.
    - Examine various methods of sound recording and analyze benefits and limitations of various methods.
    - Compare and contrast various methods of sound recording used in common modern consumer electronics.
    - Make judgments as to best methods of sound recording for various real-world applications in terms of practicality, reliability, and versatility.

    National Standards: 6, 7, 8 and 9
    NJCCS: 1.4.12.B.3, 1.4.12.B.1, 1.4.12.A.3
    21st Century Skills – Critical Thinking and Problem Solving: using systems thinking and making judgments and decisions. Communication and Collaboration: communicate clearly. Media Literacy: analyze media.

6. Acquiring a foundation in electronic composition. Common methods of digital music composition. Methods of composition and advantages and limitations of each.
    - Use tools to create original works.
    - Understand the various methods of composition and arranging in use in current popular music.
    - Use electronic composition and arranging tools selectively to create original musical works.

    National Standards: 4, 5 and 6
    NJCCS: 1.3.12.B.3, 1.4.12.B.3, 1.4.12.A.2, 1.3.12.B.4
    21st Century Skills – Productivity and Accountability: manage projects and produce results. Social and Cross-Cultural Skills: interact effectively with others and work effectively in diverse teams. Flexibility and Adaptability: adapt to change and being flexible. Information, Communication, Technology Literacy: apply technology effectively.

7. To begin working with a professional grade Digital Audio Workstation (DAW). To provide students with an overview of Pro Tools Express design, function and features.
    - Enable the use of a Pro Tools software and hardware suite for multi-track recording, mixing and mastering.
    - Understand the process of digital music distribution.

    National Standards: 4, 6 and 7
    NJCCS: 1.3.12.B.3, 1.4.12.B.3, 1.4.12.A.2, 1.3.12.B.2.
    21st Century Skills – Productivity and Accountability: manage projects and produce results. Information, Communication, Technology Literacy: apply technology effectively. Media Literacy: create media products

8. Understand and succeed in the process of matching sight to sound: pairing sound or music to video and film. To provide students with an overview of Pro Tools design, function and features.
    - Creating auditory material on the PC and synching it to visual material.
    - Understand the variety of techniques to create musical soundtracks or scores.
    - The relevance of different historical trends in creating sound/music to accompany video & film.

    National Standards: 4, 8 & 9
    NJCCS: 1.3.12.B.3, 1.4.12.B.2, 1.4.12.B.1
    21st Century Skills – Productivity and Accountability: manage projects and produce results. Information, Communication, Technology Literacy: apply technology effectively. Media Literacy: create media products

Unit 1: Grade 9-12 – INTRODUCTION TO MUSIC TECHNOLOGY AND THE LAB

Targeted Standards: Access to the arts has a positive influence on the quality of an individual's lifelong learning, personal expression, and contributions to community and global citizenship. **(NJCCCS 1.2.12.A.2)** Understanding of how to manipulate the elements of music is a contributing factor to musical artistry. **(NJCCCS 1.3.12.B.3)** Art and art-making reflect and affect the role of technology in a global society. **(NJCCCS 1.4.12.B.3)**

Unit Objectives/Conceptual Understandings: **How technology is used in the production of music. How technology fits invisibly into the recording and production of non-electronic and electronic music. How technology aids in live music performance: the synthesizer & other MIDI controllers. Our Projects and Course Goals for the Course. Hardware Overview: Keyboard and PC, Computer & Equipment care, Computer Navigation (shortcut commands, proper software care, file saving and workspace management protocol). Overview and brief walk through of computer programs.**

Essential Questions: Why and how has technology become inextricably linked to the creation of and recording of music, even for acoustic or traditional styles of music? What are the areas we will cover in this course? Why is it important for proper care and use of the technology within the workspace?

Unit Assessment: Class discussion regarding music and technology. Quiz on equipment care. Formative assessment on program walk-through.

Core Content Objectives			Instructional Actions	
Cumulative Progress Indicators	**Concepts** *What students will know.*	**Skills** *What students will be able to do.*	**Activities/Strategies** Technology Implementation/ Interdisciplinary Connections	**Assessment Check Points**
• Justify the impact of innovations in the arts (e.g., the availability of music online) on societal norms and habits of mind in various historical eras. • Create 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. • Determine the role of art and art-making in a global society by analyzing the influence of technology on the visual, performing, and	• The myriad of ways music technology can be used. • The contents and purpose of this course. • How to properly care for and use the equipment in the lab.	• Articulate how technology is used in the production of music. • Explain how technology aids in live music performance: the synthesizer & other MIDI controllers. • Commit to our Projects and Course Goals for the Course. • Properly and carefully handle and care for all equipment in the lab: Keyboard and PC, Computer & Equipment care, Computer Navigation (shortcut commands, proper software care, file saving and workspace management protocol). • Navigate and use basic elements of the course's computer programs.	• Teacher demonstration and student exploration of devices and software.	• Class discussion regarding music and technology. • Quiz on equipment care. • Formative assessment on program walk-through.

multimedia arts for consumers, creators, and performers around the world.			

Resources: Sibelius 7	**Instructional Adjustments:** Modifications, student difficulties, possible misunderstandings • Immersion for ESL students • IEP adjustments as needed per student

Unit 2: Grade 9-12 – LEGAL AND ETHICAL ISSUES IN DIGITAL MUSIC

Targeted Standards: Access to the arts has a positive influence on the quality of an individual's lifelong learning, personal expression, and contributions to community and global citizenship. **(NJCCCS 1.2.12.A.2)** Cultural and historical events impact art-making as well as how audiences respond to works of art. **(NJCCCS 1.2.12.A.1)** Performance technique in dance, music, theatre, and visual art varies according to historical era and genre. **(NJCCCS 1.4.8.A.3)**

Unit Objectives/Conceptual Understandings: Sharing music digitally and responsibly. What fair use is. Rise of digital music and the decline of traditional sales. The concept of intellectual property. Take a critical and informed stance on the use and commerce of digital music.

Essential Questions: What are the legal/ethical rights and responsibilities associated with the creation, production, and consumption of music? What is my role in the use of music in a legal and ethical manner? How does the study of music provide essential ways to understand and express life experiences?

Unit Assessment: Position paper on legal and ethical issues related to the music industry.

Cumulative Progress Indicators	Core Content Objectives		Instructional Actions	
	Concepts *What students will know.*	**Skills** *What students will be able to do.*	**Activities/Strategies** Technology Implementation/ Interdisciplinary Connections	**Assessment Check Points**
• Justify the impact of innovations in the arts (e.g., the availability of music online) on societal norms and habits of mind in various historical eras. • Determine how dance, music, theatre, and visual art have influenced world cultures throughout history. • Distinguish among artistic styles, trends, and movements in dance, music, theatre, and visual art within diverse cultures and historical eras.	1. Why it is important to share digital music responsibly. 2. What fair use is. 3. Understand the rise of digital music and the decline of traditional sales. 4. What intellectual property is. 5. The use and commerce of digital music.	1. How to share music responsibly, legally and ethically. 2. How to comply with Fair Use guidelines and all intellectual property law. 3. How to articulate what intellectual property and also its importance not only for musicians and the music business, but our entire form of economy. 4. How to take a critical and informed stance on the use and commerce of digital music.	1. Presentation of facts regarding declining record sales. 2. Illustration of funding and capital expenditures on "new" artists when record companies thrive. 3. Class discussion on ethical considerations regarding taking what is not freely given.	1. Outline of position paper on legal and ethical issues related to the music industry. 2. First draft of paper. 3. Revision and or final draft of position paper.

Resources: US Copyright office - http://www.copyright.gov/, ASCAP - http://www.ascap.com/, BMI http://www.bmi.com/. Billboard Charts http://www.billboard.com/.

Instructional Adjustments: Modifications, student difficulties, possible misunderstandings

• Immersion for ESL students
• IEP adjustments as needed per student

Unit 3: Grade 9-12 – BASIC PROJECTS: MASH-UPS AND PODCASTS

Targeted Standards: Understanding nuanced stylistic differences among various genres of music is a component of musical fluency. Meter, rhythm, tonality, and harmonics are determining factors in the categorization of musical genres. **(NJCCS 1.1.12.B.1)** Cultural and historical events impact art-making as well as how audiences respond to works of art. **(NJCCCS 1.2.12.A.1)** Technical accuracy, musicality, and stylistic considerations vary according to genre, culture, and historical era. **(NJCCCS 1.3.12.B.1)** Understanding of how to manipulate the elements of music is a contributing factor to musical artistry. **(NJCCCS 1.3.12.B.3)**

Unit Objectives/Conceptual Understandings: To use a Digital Audio Workstation (DAW), such as Pro Tools Express to create new original projects. Students will learn that they can make original creations on the computer by using pre-recorded music. Create a Mash-up: a song or composition created by blending two or more pre-recorded songs. Create a Podcast.

Essential Questions: How can a DAW be used to import existing sound sources to create an original sounding "sound-scape". What qualities does a Mash-up have that make it sound like a new and cohesive whole? What makes a Podcast enjoyable or interesting to listen to? What are reasons that Podcasting and listening to Podcasts has become such a popular activity?

Unit Assessment: Students will produce their own Mash-up and Podcast, which the teacher will listen to for quality and workmanship. (rubric in appendix B)

	Core Content Objectives		Instructional Actions	
Cumulative Progress Indicators	**Concepts** *What students will know.*	**Skills** *What students will be able to do.*	**Activities/Strategies** Technology Implementation/ Interdisciplinary Connections	**Assessment Check Points**
• 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. • Determine how dance, music, theatre, and visual art have influenced world cultures throughout history. • Analyze compositions from different world cultures and genres with respect to technique, musicality, and stylistic nuance, and/or perform excerpts with technical accuracy, appropriate musicality, and	1. That readily available and relatively easy to use programs can be used to create new music projects. 2. That existing sound sources can be imported and used as "sound materials" for projects. Recording new music is not the only option. 3. What are the traits of a quality Mash-up? 4. What are the traits of a quality Podcast	1. How to navigate and utilize a Digital Audio Workstation. 2. How to select cohesive song excerpts for use in a Mash-up. 3. How to import and edit music files to create a Mash-up. 4. How to select a Podcast topic. 5. How to select, import and edit music files for use in a Podcast 6. How to record and edit a "voice over" style narration for the Podcast.	1. The teacher will provide a demonstration of each project, include desirable traits and standards for each project type. 2. Students will use the DAWs in a hands-on fashion to create the projects. 3. Teacher will be available to help students and share useful tips and tricks.	1. Formative listening sessions given by teacher. 2. Summative listening session with completed rubric with notes and comments.

the relevant stylistic nuance. • 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.			

Resources: Professional mash-up: DJ Earworm, Professional Podcast, as well as teacher created versions to model.	**Instructional Adjustments:** Modifications, student difficulties, possible misunderstandings. • Immersion for ESL students • IEP adjustments as needed per student

Unit 4: Grade 9-12 – THE SCIENCE OF SOUND & SOUND TRANSMISSION

Targeted Standards: Understanding of how to manipulate the elements of music is a contributing factor to musical artistry. **(NJCCS 1.3.12.B.3)** Art and art-making reflect and affect the role of technology in a global society. **(NJCCS 1.4.12.B.3)**

Unit Objectives/Conceptual Understandings: **Identify and explain the nature and behavior of sound as a mechanical wave, and describe how sound may be transmitted via mechanical and electronic means. Examine various methods of sound transmission and analyze benefits and limitations of various methods. Compare and contrast various methods of sound transmission used in common modern consumer electronics. Evaluate methods of sound transmission for various real-world applications in terms of practicality, reliability, and versatility.**

Essential Questions: How is the physics of sound related to music? How does the study of music provide essential ways to understand and express life experiences? How does participation in music develop self-discipline and focus and develop the capacity to refine work and aspire to high quality standards?

Unit Assessment: Student Creation and Presentation of Resonator Wave and Sound Transmission Test.

Cumulative Progress Indicators	Concepts *What students will know.*	Skills *What students will be able to do.*	Activities/Strategies Technology Implementation/ Interdisciplinary Connections	Assessment Check Points
1. mprovise sounds 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. 2. etermine the role of art and art-making in a global society by analyzing the influence of technology on the visual, performing, and multimedia arts for consumers, creators, and performers around the world.	1. he nature and behavior of sound as a mechanical wave. How sound may be transmitted via mechanical and electronic means. 2. he benefits and limitations of various methods of sound transmission. 3. he qualities of sound transmission in common modern consumer electronics. 4. ow various methods of sound transmission relate to many real-world applications.	1. hrough demonstration, experimentation and lecture students will identify and explain the nature and behavior of sound as a mechanical wave, and describe how sound may be transmitted via mechanical and electronic means. 2. tudents will examine various methods of sound transmission and analyze/describe benefits and limitations of various methods. 3. tudents will compare and contrast various methods of sound transmission used in common modern consumer electronics. 4. tudents will evaluate methods of sound transmission for various real-world applications in terms of practicality, reliability, and versatility.	Demonstration, discussion, experiment.	Student Creation and Presentation of Resonator Wave and Sound Transmission Test.

Resources: Resonance experiments: Myth busters: http://www.youtube.com/watch?v=WFbUpUE9KiU&feature=related http://www.youtube.com/watch?v=B2doRwbxBzA http://www.youtube.com/watch?v=JDnNmLkQ3Bc	**Instructional Adjustments:** Modifications, student difficulties, possible misunderstandings • Immersion for ESL students • IEP adjustments as needed per student

Unit 5: Grade 9-12 – SOUND REPRODUCTION – FROM EDISON TO MP3

Targeted Standards: Art and art-making reflect and affect the role of technology in a global society. **(NJCCS 1.4.12.B.3)** Formulate criteria for music evaluation using the principles of positive critique and observation of the elements of music and principles of design, and use the criteria to evaluate works of dance, music, theatre, visual, and multimedia artwork from diverse cultural contexts and historical eras. **(NJCCS 1.4.12.B.1)** Artistic styles, trends, movements, and historical responses to various genres of art evolve over time. **(NJCCS 1.4.12.A.3)**

Unit Objectives/Conceptual Understandings: **Identify and explain the mechanics of sound reproduction and explore history of recorded sound. Examine various methods of sound recording and analyze benefits and limitations of various methods. Compare and contrast various methods of sound recording used in common modern consumer electronics. Make judgments as to best methods of sound recording for various real-world applications in terms of practicality, reliability, and versatility.**

Essential Questions: How has the production of sound evolved over time? How does the study of music develop deeper understandings of past and present cultures and prepare students for active participation in creating culture of the present and future? How does music enable students to make informed aesthetic choices and prepare them for enjoyable recreation and leisure time? How does participation in music develop self-discipline and focus and develop the capacity to refine work and aspire to high quality standards?

Unit Assessment: Classroom Debate and Research paper on album of choice.

	Core Content Objectives		Instructional Actions	
Cumulative Progress Indicators	**Concepts** *What students will know.*	**Skills** *What students will be able to do.*	**Activities/Strategies** Technology Implementation/ Interdisciplinary Connections	**Assessment Check Points**
1. Determine the role of art and art-making in a global society by analyzing the influence of technology on the visual, performing, and multimedia arts for consumers, creators, and performers around the world. 2. Formulate criteria for music evaluation using the principles of positive critique and observation of the elements of music and principles of design, and use the criteria to evaluate works of dance, music, theatre, visual, and multimedia artwork from	1. How sound has historically been recorded and is today as well. 2. The benefits and limitations of various methods of recording. 3. The various methods of sound recording in modern consumer electronics. 4. Which recording methods work best for a variety of real-world recording scenarios.	1. Students will identify and explain the mechanics of sound reproduction and explore history of recorded sound. 2. Students will examine various methods of sound recording and analyze benefits and limitations of various methods. 3. Students compare and contrast various methods of sound recording used in common modern consumer electronics. 4. Students make judgments as to best methods of sound recording for various real-world applications in terms	1. Comparison Activity involving electric RCA Victor record player, 8-track, cassette, CD, MP-3. 2. Cooperative Activity in which students discuss and debate the advantages and disadvantages of analog and digital recording formats. 3. Students digitally manipulate recorded sound using Music Lab equipment and software. 4. Classroom lectures, demonstrations, discussions of recording formats.	1. Classroom discussion and debate 2. Research paper on album of choice: paper will research and reveal recording processes, location(s), technology and relevant facts and stories. (See Appendix B)

diverse cultural contexts and historical eras. 3. Develop informed personal responses to an assortment of artworks across the four arts disciplines (dance, music, theatre, and visual art), using historical significance, craftsmanship, cultural context, and originality as criteria for assigning value to the works.		of practicality, reliability, and versatility.	

Resources: *Edison : inventing the century* by Baldwin.	**Instructional Adjustments:** Modifications, student difficulties, possible misunderstandings • Immersion for ESL students • IEP adjustments as needed per student

Unit 6: Grade 9-12 – ELECTRONIC COMPOSITION – TOOLS FOR THE MUSICIAN

Targeted Standards: Understanding of how to manipulate the elements of music is a contributing factor to musical artistry. **(NJCCCS 1.3.12.B.3)** Art and art-making reflect and affect the role of technology in a global society. **(NJCCCS 1.4.12.B.3)** Contextual clues within artworks often reveal artistic intent, enabling the viewer to hypothesize the artist's concept. **(NJCCCS 1.4.12.A.2)** Basic vocal and instrumental arranging skills require theoretical understanding of music composition. **(NJCCCS 1.3.12.B.4)**

Unit Objectives/Conceptual Understandings: Common methods of digital music composition. Methods of composition and advantages and limitations of each. Use tools to create original works. Various methods of composition and arranging in use in current popular music. Use electronic composition and arranging tools selectively to create original musical works.

Essential Questions: How does the study of music provide essential ways to understand and express life experiences? How does participation in music develop self-discipline and focus and develop the capacity to refine work and aspire to high quality standards? What are ways that electronic composition aids or hinders composers? What are ways we can overcome becoming lost in the technology or becoming a slave to it? What are the benefits to composing and arranging in a software-based environment?

Unit Assessment: Composition/arranging projects assessed according to established criteria (see project samples In Appendix B).

	Core Content Objectives		Instructional Actions	
Cumulative Progress Indicators	**Concepts** *What students will know.*	**Skills** *What students will be able to do.*	**Activities/Strategies** Technology Implementation/ Interdisciplinary Connections	**Assessment Check Points**
1. Compose and arrange sounds 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. 2. Determine the role of art and art-making in a global society by analyzing the influence of technology on the visual, performing, and multimedia arts for consumers, creators, and performers around the	1. Common methods of digital music composition. 2. Methods of composition and advantages and limitations of each. 3. Use tools to create original works. 4. Various methods of composition and arranging in use in current popular music. 5. Use electronic composition and arranging tools selectively to create original musical works.	1. Utilizing Music Tech lab software, students will identify and explain common methods of digital music composition. 2. Students will examine various methods of composition and explore advantages and limitations of each. 3. Students use tools to create original works. 4. Students will compare and contrast various methods of composition and arranging in use in current popular music. 5. Students will use electronic composition and arranging tools selectively to	1. Digital Audio Workstation composition assignment 1 2. Digital Audio Workstation composition assignment 2 3. MIDI Editing Arranging Project 1 (see appendix B) 4. MIDI Editing Composition Project 2 (see appendix B)	• Composition/arranging projects assessed according to established criteria (see project samples In Appendix B). • Think, pair, share during working-draft phase. • Peer review and assessment.

world. 3. Speculate on the artist's intent, using discipline-specific arts terminology and citing embedded clues to substantiate the hypothesis. 4. Arrange simple pieces for voice or instrument using a variety of traditional and nontraditional sound sources or electronic media, and/or analyze prepared scores using music composition software.		create their original musical works.	
Resources: Musique Contrete - http://www.allmusic.com/style/musique-concr%C3%A8te-ma0000012319.	**Instructional Adjustments:** Modifications, student difficulties, possible misunderstandings • Immersion for ESL students • IEP adjustments as needed per student	

Unit 7: Grade 9-12 – PRO TOOLS

Targeted Standards: Understanding of how to manipulate the elements of music is a contributing factor to musical artistry. **(NJCCS 1.3.12.B.3)** Art and art-making reflect and affect the role of technology in a global society. **(NJCCS 1.4.12.B.3)** Contextual clues within artworks often reveal artistic intent, enabling the viewer to hypothesize the artist's concept. **(NJCCS 1.4.12.A.2)** The ability to interpret music impacts musical fluency. **(NJCCS 1.3.12.B.2)**

Unit Objectives/Conceptual Understandings: To provide students with an overview of Pro Tools design, function and features. Enable the use of this Digital Audio Workstation for multi-track recording, mixing and mastering. To understand the process of digital music distribution.

Essential Questions: How has the use of Digital Audio Workstations such as Pro Tools changed, improved, affected how musicians create, record and produce music? Pro Tools is the preeminent industry standard DAW, be critical of it: what are features you both approve and disapprove of? How does one software solution grow to the level of being the accepted norm amongst the majority? Considering the previous question, are there downfalls due to that fact that affect the consumers (I.e. recording engineers, producers, musicians, listeners)? How have the drastic changes in music distribution changed the ways we perceive, value and consume music?

Unit Assessment: Assessment of final recorded project based upon established criteria (see Rubric in Appendix B).

Core Content Objectives			Instructional Actions	
Cumulative Progress Indicators	**Concepts** *What students will know.*	**Skills** *What students will be able to do.*	**Activities/Strategies** Technology Implementation/ Interdisciplinary Connections	**Assessment Check Points**
• Improvise sounds 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. • Determine the role of art and art-making in a global society by analyzing the influence of technology on the visual, performing, and multimedia arts for consumers, creators, and performers around the world. • Speculate on the artist's intent, using discipline-	Pro Tools can be used to: • Record numerous instruments, both acoustic, electric and digital. • As a MIDI sequencer. • To edit tracks and correct pitches and rhythms. • How tracks can have effects and equalization added to add depth and character to sounds. • Tracks require mixing in order to achieve balance and the proper desired outcome. • There are vast resources available to amateur musicians for digital music distribution, in order to make their creations available to the public.	How Pro Tools operates and is used in a real-world professional sound recording session, in the follow ways: • How to assign instruments to tracks. • How to edit: cut, copy, paste, cross-fade. • Assigning instruments, MIDI Tracks, Employing Loops, Automation, Track Effects, Mixing and Mastering • Upload digital music files to a public music sharing website: Blog, ReverbNation, Band Camp, iTunes or similar music sharing vehicles.	Teacher demonstration of all Pro Tools features to be used in the project, followed by student exploration, Q&A and mastery.	1. Pro Tools recording assignment (See Appendix B) 2. Students will pick a composition to record, along with the teacher's approval. 3. Students will first record a single track from a digital source, followed by Formative assessment. 4. Students will continue track by track, with a formative assessment to follow at predetermined steps. 5. Peer assessment and review.

specific arts terminology and citing embedded clues to substantiate the hypothesis. • Analyze how the elements of music are manipulated in original or prepared musical scores.			

Resources: Pro Tools Express.	**Instructional Adjustments:** Modifications, student difficulties, possible misunderstandings • Immersion for ESL students • IEP adjustments as needed per student

Unit 8: Grade 9-12 – MATCHING SIGHT TO SOUND: VIDEO & FILM

Targeted Standards: Understanding of how to manipulate the elements of music is a contributing factor to musical artistry. **(NJCCS 1.3.12.B.3)** The cohesiveness of a work of art and its ability to communicate a theme or narrative can be directly affected by the artist's technical proficiency as well as by the manner and physical context in which it is performed or shown. **(NJCCS 1.4.12.B.2)** Archetypal subject matter exists in all cultures and is embodied in the formal and informal aspects of art. **(NJCCS 1.4.12.B.1)**

Unit Objectives/Conceptual Understandings: The process of creating auditory material to accompany visual material. Understand the variety of techniques to create musical soundtracks or scores. The relevance of different historical trends in creating sound/music to accompany video & film.

Essential Questions: How can music be used to support and enhance visual images? How has the use of audio, sound samples and music changed over time to accompany both video footage and film? Why does sound have such an impact on the way we perceive visual stimulus?

Unit Assessment: Completed Film scene for DVD and YouTube video.

	Core Content Objectives		Instructional Actions	
Cumulative Progress Indicators	**Concepts** *What students will know.*	**Skills** *What students will be able to do.*	**Activities/Strategies** Technology Implementation/ Interdisciplinary Connections	**Assessment Check Points**
• Improvise sounds 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. • Evaluate how an artist's technical proficiency may affect the creation or presentation of a work of art, as well as how the context in which a work is performed or shown may impact perceptions of its significance/meaning. • Formulate criteria for music evaluation using the principles of positive critique and observation of the	• Through demonstration and lecture students will **identify and explain** the process of creating musical accompaniment for visual images on film. • The importance of various techniques and strategies for creating a musical soundtrack for a variety of film styles. • The importance of being able to identify a music score's historical placement, influences, defining characteristics: including instrumentation, timbral palate and compositional devices. • The importance of being able to interpret, match and/or juxtapose the mood	• Create musical accompaniment to visual images: video or film. • Use a variety of techniques and strategies to create a musical soundtrack for a variety of film or video styles. • Create their own scores for film scenes based on their interpretations of mood and action. • Differentiate and articulate the differences in scores used in historical and contemporary films, as well as soundtracks in historical and contemporary video footage. • Students will critically assess existing film scores.	• Discussions of film clips as related to use of music. • Musical Score Creation project. • Creation of DVD of film clips with scores digitally attached. • Creation of soundtrack to teacher approved and student selected video footage, which will be posted to YouTube.	• Completed Film scene for DVD. • Completed YouTube video.

elements of music and principles of design, and use the criteria to evaluate works of dance, music, theatre, visual, and multimedia artwork from diverse cultural contexts and historical eras.	and action of visuals with auditory accompaniment.			

Resources:	**Instructional Adjustments:** Modifications, student difficulties, possible misunderstandings • Immersion for ESL students • IEP adjustments as needed per student

APPENDIX A

PERFORMANCE ASSESSMENTS

MUSIC DEPARTMENT
AUDITION WORKSHEET

NAME: _____

DATE: _____

MUSICIANSHIP

Characteristic tone quality/timbre
❑ Consistently demonstrates tones of a superior tone color.
❑ Usually demonstrates a strong concept of tone color, except at extreme ranges of tessitura.
❑ Has a concept of characteristic tone quality, but is not able to demonstrate consistently.
❑ Does little to demonstrate a characteristic tone color.
❑ Has trouble making a characteristic sound.

Intonation
❑ Consistently demonstrates understanding of intervallic relationships between notes in all ranges.
❑ Usually demonstrates understanding of intervallic relationships between notes except at extreme ranges of tessitura.
❑ Makes an effort to demonstrate ability to hear intervallic distances but is not always successful.
❑ Does little to adjust between pitches.
❑ Is not aware of any pitch alterations that are necessary.

Expression, Phrasing, & Dynamics
❑ Consistently demonstrates an understanding of musical expression, with and without markings. Breathes/pauses musically.
❑ Follows all markings found in the music, but performance seems contrived. Breathes/ pauses are usually placed musically.
❑ Makes an effort to demonstrate some expression, but lacks maturity to express consistently. Breathing/pauses somewhat arbitrary.
❑ Does little to follow the written markings. Breathing/pauses are arbitrary.
❑ Is not aware of the need for musical expression or proper breathing or phrasing.

Stylistic Accuracy
❑ Consistently demonstrates an understanding of the proper style required for the music.
❑ Usually performs music with proper style.
❑ Has a concept of stylistic consideration but is not always able to demonstrate it.
❑ Does little to perform with any degree of style.
❑ Is not aware of the necessity to perform with proper style.

TECHNIQUE

Rhythmic Accuracy
❑ Consistently demonstrates an understanding of pulse control and rhythmic placement.
❑ Demonstrates an understanding of rhythmic relationships, but unable to maintain steady beat.
❑ Has some difficulty in performing rhythms accurately. Steady beat is usually not present.
❑ Has great difficulty in performing rhythms accurately. Steady beat is usually not present.
❑ Is unable to perform many rhythms accurately. Has a great deal of trouble keeping a steady beat.

Melodic Accuracy
❑ Consistently performs with accurate pitches.
❑ Usually performs with accurate pitches.
❑ Has some difficulty in performing accurately.
❑ Has great difficulty in performing with correct pitches.

Articulation
❑ Consistently performs with proper articulation.
❑ Usually performs with proper articulation.
❑ Has difficulty in performing proper articulation.
❑ Is not able to perform the written articulation.

Sight-Reading Accuracy
1   2   3   4   5   6   7   8   9   10

Rubric Construction Form

Performer's Name _____

Construct your own rubric by determining which features you will assess, then name at least three levels of competence, from less to more skilled. Determine the maximum number of points which may be received from each feature. Then add these for the total possible number of points.

Use this rubric to score performances.

Performance Feature	Maximum Points	Score
Overall Score	Possible Total:	Actual Score:

Evaluator _____ Class _____ Date _____

Self-Observation/Self-Assessment

Listen to your performance and then answer the following:

1.   This is what I did well.

_____
_____
_____

2.   This is what I think I need to improve.

_____
_____
_____

3.   This is my recommendation for a plan for improvement.

_____
_____
_____

Other Comments/Observations:

_____
_____

_____

APPENDIX B

COURSE TEXTS & SUPPLEMENTAL MATERIALS

BASIC AND SUPPLEMENTAL MATERIAL

BASIC
Avid. Pro Tools 9 and 10 Reference Guides http://avid.force.com/pkb/articles/en_US/User_Guide/en379111

SUPPLEMENTAL
Keane, J., The Musician's Guide to Pro Tools. New York, NY: McGraw-Hill Osborne Media

Strong, J., Pro Tools All-in-One Desk Reference for Dummies. Hoboken, NJ: Wiley Publishing, Inc.

Baldwin, N., Edison: Inventing the Centur. New York, NY: Hiperion. ISBN-10: 0786881194

Guidelines for Unit 5 Research Paper:
Classic Album of Choice

For this paper, the student will choose a "favorite" album, which they will research. This paper is designed to have the student discover and reveal the album's recording processes, location(s), technology and relevant facts and stories. The choice of album should be agreed upon between the teacher and student. Guidelines for choosing an album would generally be to pick a "land mark" recording that is well known, well documented and upon which sufficient data can be discovered. Some examples might be: The Beatles "Sgt. Peppers Lonely Hearts Club Band", Pink Floyd's "Dark Side of the Moon", Led Zeppelin "IV" or U2's "The Joshua Tree" or Miles Davis "Kind of Blue", to name a few. Some other examples can be found in the TV series "Classic Albums":
http://en.wikipedia.org/wiki/Classic_Albums

Introduction to Music Technology

Sample Rubric for Mash-up Project
Note: rubric originally designed for GarageBand but can be modified for any Digital Audio Workstation, such as Pro Tools Express.

Category	Advanced – 20 points	Proficient – 17 points	Progressing – 15 points	Incomplete – 13 points
Ability to use GarageBand	Student understands most of the tools in GarageBand and can apply them to his/her project.	Student has a basic knowledge of the tools in GarageBand can apply them to his/her project.	Student understands most of the tools in GarageBand but has difficulty applying them to his/her project.	Student has only a general knowledge of GarageBand and cannot apply it to his/her project.
Originality	Product shows a large amount of original thought. Ideas are creative and inventive.	Product shows some original thought. Work shows new ideas and insights.	Uses other people's ideas (giving them credit), but there is little evidence of original thinking.	Uses other people's ideas, but does not give them credit.
Cohesiveness	The song is seamless and appears to be it's own new song.	The song is somewhat seamless and appears to present a new song with this combination.	The song is somewhat disjointed but works as an entertaining experiment.	The song is disjointed and does not make musical sense.
Requirements	All requirements are met and exceeded.	All requirements are met.	One requirement was not completely met.	More than one requirement was not completely met.
Work/Time	Student used all of the time that was given to them and was on task during the entire class time.	Student used the time wisely and was on task during for the majority of the class time.	Student was off task during part of this assignment and did not use their time wisely. The student seemed to rush through the project to just get it done.	Often the student was found off task. The student did not use their time wisely. The student seemed to rush through the project to just get it done.

Name:

Total Points 100

Total Earned: _____

Sample Rubric for Podcast Project

Note: rubric originally designed for GarageBand but can be modified for any Digital Audio Workstation, such as Pro Tools Express.

Student Name:

Music Artist Podcast – Total Max Points = 100   Total Points Earned - _____

Category	Advanced – 20 points	Proficient – 17 points	Progressing – 15 points	Incomplete – 13 points
Set-Up/Pre-Production	Podcast was set up correctly and saved to Student Project Folder. Tracks were properly labeled and recording process was enabled correctly. Team gathered valid research and saved to Word doc.	Most of the podcast was set up correctly. Recording functions were mostly set-up correctly. Team gathered some information but was not long enough.	Podcast was not set up correctly. Some tracks were properly labeled. Some information was gathered. Did not save info to Word doc.	Little effort was given to the preparation and set up of project. Tracks not labeled and set up correctly. No evidence of research or effort.
Content	Creativity and original content enhance the purpose of the podcast in an innovative way. Includes a wide variety of appropriate, well-researched and informative sources. Keeps focus on the topic.	Accurate information is provided succinctly. Includes appropriate and informative quotes from "expert" sources. Stays on the topic. Conclusion summarizes information.	Some information is inaccurate or long-winded. Includes some variety of informative quotes from some "expert" sources. Occasionally strays from the topic. Conclusion vaguely summarizes key information.	Information is inaccurate. Includes no source quotes or includes source quotes with multiple citation errors. Does not stay on topic. No conclusion is provided.
Delivery	Well rehearsed, smooth delivery in a conversational style. Highly effective enunciation and presenter's speech is clear and intelligible, not distant and muddled. Expression, and rhythm keep the audience listening. Correct grammar is used throughout the podcast.	Rehearsed, smooth delivery. Enunciation, expression, pacing are effective throughout the podcast. Correct grammar is used during the podcast.	Appears unrehearsed with uneven delivery. Enunciation, expression, rhythm are sometimes distracting during the podcast. Occasionally incorrect grammar is used during the podcast.	Delivery is hesitant, and choppy and sounds like the presenter is reading. Enunciation of spoken word is distant and muddled and not clear. Expression and rhythm are distracting throughout the podcast. Poor grammar is used throughout the podcast.
Graphic & Music Enhancement	The graphics/artwork used creates a unique and effective presentation and enhance what is being said in the podcast and follow the rules for quality graphic design. Music enhances the mood, quality, and understanding of the presentation.	The graphics/artwork relates to the audio and reinforces content and demonstrates functionality. Music provides supportive background to the podcast.	The graphics/artwork sometimes enhance the quality and understanding of the presentation. Music provides somewhat distracting background to the podcast.	The graphics are unrelated to the podcast. Artwork is inappropriate to podcast. Music is distracting to presentation.
Technical Production	Presentation is recorded in a quiet environment without background noise and distractions. Transitions are smooth and spaced correctly without noisy, dead space. Volume of voice, music, and effects enhance the presentation. Podcast length keeps the	Presentation is recorded in a quiet environment with minimal background noise and distractions. Transitions are smooth with a minimal amount of ambient noise. Volume is acceptable. Podcast length keeps audience listening.	Presentation is recorded in a semi-quiet environment with some background noise and distractions. Transitions are uneven with inconsistent spacing; ambient noise is present. Volume is occasionally inconsistent. Podcast length is somewhat long or somewhat short to keep	Presentation is recorded in a noisy environment with constant background noise and distractions. Transitions are abrupt and background noise needs to be filtered. Volume changes are highly distracting. Podcast is either too long or too short to keep the audience engaged.

	audience interested and engaged.		audience engaged.	

Sample Projects

For Sample Projects, this template can be used for loop-based original composition assignments or for MIDI Editing based Arranging and Composing assignments, making appropriate changes to the following project templates.

Intro to Music Technology
Digital Audio Workstation Project 1

Assignment: Create an original composition using Digital Audio Workstation loop-based editing software. The composition must meet all of the following criteria for full credit:

- minimum of 24 measures long
- ABA format with 8-measure sections
- Each section must contain at least one bass instrument track, a percussion track, and a melodic or harmonic track. More tracks are allowed.
- The track volume fader control must be used at least once in the composition.
- "Bounce" your finished composition to AIFF format using the "Export to iTunes" command.

Optionally, your composition may include an introduction, transitional material between sections, and/or a coda section. For this project, please use only the loops included with stylistic consistency and creativity will be considered in grading this

Submitting Completed Projects for Grading
Export your project to iTunes. Convert your project to AAC or .mp3 format using iTunes. (Highlight track name, select "Convert selection to..." from "Advanced" menu at top of screen.) Log in to webmail using your school username and password. Create a new message to teacher. Use "DAW project" as the subject line. Use the "paper clip" icon in the top toolbar to add an attachment to your message. Click the "Choose File" button. In the window that opens, click on "Music" in the left panel. Go to your iTunes folder, then find your track in the "iTunes Music" folder (it should be under your own name for artist/album). Select the file you wish to send. (Be sure to send the .mp3 or AAC (.m4a) and not the .aif file, which will be too large.) Click the "Choose" button. The file should appear in the Outlook window. Click "Attach" to complete the attachment. Click "Send."

(Sample Project 2)
Intro to Music Technology
Digital Audio Workstation Project 2

Assignment: Create an original composition using Digital Audio Workstation loop-based editing software. The composition must meet all of the following criteria for full credit:
- The composition should be in standard pop song format:
- Intro, AABABCBB Coda ("Outro")
- Intro = 2-4 bars, instrumentation of your choosing
- A=Verse–8Bars
- B = Chorus – 8 Bars
- C = Bridge – 4-8 Bars of contrasting material
- Coda = ending material based on earlier themes, may be a "repeat and fade"

Each section (except the intro and coda) should have at minimum:
- A percussion/drum set track
- A bass or bass instrument track
- A track of melodic or harmonic riffs and/or fills (organ, guitar, piano, strings, etc.)

At least one of the thematic sections must contain an ORIGINAL melody, harmony or drum loop created either through the Keyboard window, the Musical Typing window, or by the addition of a live instrument or vocals.

You must use the Track Volume and Pan controls to balance and blend your mix. (We will discuss more about the Pan control tomorrow in class.) Export your final mix to iTunes.
Grading will be based on successfully meeting all of the above criteria, with extra credit for musicality and creativity.

Pro Tools Rubric

Student: _____

Music Technology Program

built by *(me)*

Derived from rubric: Music Technology Certificate Program

Rubric Code: F7CX68

Demonstration of skills learned in using AVID Pro Tools 10 music production software and new MBox Pro audio interface.

✔ **Ready to use** 🌐 **Public Rubric**

Keywords: Pro Tools 10

Directly link to this rubric or embed it on your website: ❓

Categories:
edit categories
Subjects: Music
Types: Project

url: http://www.rcampus.com/r

link: <a href="http://www.rcam

Grade Levels: Undergraduate

embed: <iframe src="http://www.n

Pro Tools
100 % Evaluation of skills for Pro Tools Operation

iRubric

	Needs Improvement 80 pts	Fair 90 pts	Good 95 pts	Excellent 100 pts
Assigning Instruments 100 pts Show and demonstrate skills in selecting instruments of project	**Needs Improvement** Student has yet to understand basic techniques of assigning instruments for recording.	**Fair** Student shows some basic techniques of assigning instruments, but needs to demonstrate more creativity.	**Good** Student shows aggressive techniques in demonstrating uses of instruments and creativity.	**Excellent** Student fully understands the concept and creativity when employing musical instruments in the recording project.
Pro Tools Template 100 pts Show and demonstrate skills learned in using software application	**Needs Improvement** Student has yet to demonstrate an understanding in building a basic recording template for the software taught in the courses.	**Fair** Student demonstrates a fair knowledge of how to build a basic template for recording in the software taught in the courses.	**Good** Student demonstrates knowledge of how to build a template for recording in the software, but could be more creative in the arrangement.	**Excellent** Student understands how to a build an easy to use template and organize and arrange instrument tracks and auxiliary tacks.
MIDI Tracks 100 pts Show and demonstrate skills in using virtual instruments	**Needs Improvement** Student has yet to demonstrate knowledge of the General MIDI channels and instruments assignment.	**Fair** Student demonstrates some knowledge of General MIDI and some of the instruments associated with specific channels.	**Good** Student demonstrates knowledge of instruments needed for project but, could be clearer regarding the General MIDI Map locations.	**Excellent** Student is familiar with all the General MIDI Channels available for recording projects.

Introduction to Music Technology

	Needs Improvement	Fair	Good	Excellent
Employing Loops 100 pts Usage of pre-recorded materials for project. Sequences	Student unclear of what loops are available for recording in the software available in the course.	Student has understanding of what loops are available, but does not demonstrate musicianship when applying instruments/loops for various textures.	Student is clear of what textures are needed for anticipated genre, but can be more clear on how to employ these in the arrangement of sequenced score.	Student confident in what loops are available in the General MIDI Map and demonstrates musicianship in usage of the loop recordings.
Automation 100 pts Assigning volume levels for sections of recorded material	No dynamics, no use of articulation, most phrases are performed incorrectly.	Some dynamics are observed, some articulations are performed, some phrases are complete and musically accurate.	Most of the dynamics are followed and most articulation signs are observed, most phrases are performed correctly.	Student performs the project piece with appropriate dynamics, phrases and articulation.
Track Effects 100 pts Demonstrate how to use effects during recording pre/post	Student does not demonstrate usage of applying effects in pre/post recording project.	Student shows some knowledge of how to use effects in pre/post recording project, but could be more creative and show more original thought.	Student shows experience in applying effects to recording, however technique and selection of effects could enhance over all production.	Student shows mature and creative experience applying effects to the pre/post recording.
Mixing 100 pts Demonstrate and show mixing technique learned during courses.	Student has yet to demonstrate an understanding of textures, dynamics and contrast within the recorded project.	Student shows some understanding of texture, dynamics and contrast, but project lacks warmth and fullness. Tracks are mixed but imbalanced.	Student shows understanding of textures, dynamics and contrast, but levels deserved more attention for fullness and definition.	Student understands fully the usages of texture and dynamic level of tracks and has given a lot of attention to warmth, fullness and definition of sound timbre presentation.
Saving and Finalization 100 pts Show technique in bouncing track for publication. (to Disc)	Some knowledge of what needs to be edited and normalized needs more skill and training. The project has too many substantial "rough edges".	Good demonstration of technique in normalizing tracks for balance, but project has some additional editing to be done before mix down.	Demonstrates skills in applying pre-recorded tracks and levels. More attention should be given to normalization of sequenced auto data.	Strong presentation of mixing techniques, effects, normalization, balance and warmth.
Pitch 100 pts Arrange and Equalize different instruments and timbre separation	Most pitches performed incorrectly and student is not able to track well in the sequenced musical score.	Many of the pitches are performed incorrectly, but student tracks well in the sequenced musical score.	Performed most of the pitches correctly with few errors and tracks well in the sequenced musical score.	Confidently performed all pitches correctly.
Timing 100 pts Show sense of musical and dramatic timing concepts	Most of the rhythms in the sequenced musical score are performed incorrectly.	Some of the basic rhythms are performed correctly. However has challenges with some rhythms in specific measures of the sequenced musical score.	Most of the rhythms are performed correctly, with just a few errors.	Confidently performs all rhythms correctly.

Introduction to Music Technology

	Needs Improvement	Fair	Good	Excellent
Bussing Technique **100 pts** Demonstrate how to use in/out bus assigning concepts	Student has yet to demonstrate understanding of the console as presented and the concept of inserts to bus in/out signal responses.	Student show some understanding of the console but more attention should given to assignment of busses.	Student understands the console and the function of the hardware, however bus assignment and concepts needs improvement.	Student understands the console and the concept of using busses for insert, external devices, and signal responses.
Hardware **100 pts** Show knowledge of recording gear used for production projects	Student did not demonstrate clear understanding of the type of hardware available for improving recording projects.	Student has some knowledge of hardware and demonstrates some concept of how they are used in recording music.	Student knowledgeable of hardware and how it is used, but needs to review the operation of the device.	Student understands the hardware function and demonstrates how it is used to record music and confidently performs well with the hardware.
Control Surface **100 pts** Demonstrate recording console technique and using interface gear	Student has yet to demonstrate an understanding of the console in order to perform a basic recording project.	Student shows some knowledge of the console, but does not yet demonstrate a high degree of skills in order to flow through a recording project.	Student shows understanding of the console, but needs more study of additional functions of the control surface techniques.	Student demonstrates understanding of the control surface confidently and applies good technique.

Comments:

_____

_____

_____

_____

VIDEOS

Unit 4 Videos

Resonance Demonstration: Mythbusters Breaking Glass with your voice!!
http://www.youtube.com/watch?v=WFbUpUE9KiU&feature=related

Resonance Experiment 1: ohttp://www.youtube.com/watch?v=JDnNmLkQ3Bc

Resonance Experiment 2: http://www.youtube.com/watch?v=B2doRwbxBzA

APPENDIX C

TECHNOLOGY/WEBSITE REFERENCES

SUGGESTED WEBSITES

www.avid.com
www.iLok.com
http://www.pro-tools-expert.com/
www.YouTube.com for Pro Tools demos

<div align="center">

REQUIRED COMPUTER SOFTWARE

</div>

TITLE	**PUBLISHER**
1. Pro Tools Express …………………………………………………	Avid
2. Sibelius ………………………………………………………….	Avid
3. Auralia ……………………………………………………………	Avid
4. Musition …………………………………………………………..	Avid

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SUGGESTED COMPUTER SOFTWARE

</div>

A video based software program for use during Unit 8, to sync music from Pro Tools with video footage.

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APPENDIX D

ARTS EDUCATION ADVOCACY

RESOURCES

</div>

PEOPLE / BOOKS / LINKS

Victor L. Wooten
The Music Lesson

The Art of Possibility
Rosamund Stone Zander and Benjamin Zander

Daniel Coyle
The Talent Code

Richard Florida
The Rise of the Creative Class
The Great Reset

Howard Gardner
Frames of Mind: The Theory of Multiple Intelligences

Introduction to Music Technology

Multiple Intelligences: New Horizons in Theory & Practices
Five Minds for the Future
www.howardgardner.com

Malcolm Gladwell
Blink, The Tipping Point, Outliers

Stephen Melillo
The Let's Find Out Teaching Suite: Hypertools for the Music Educator
www.stormworld.com

Sir Ken Robinson
The Arts in Schools
The Element: How Finding Your Passion Changes Everything
Out of Our Minds: Learning to be Creative

James Jordan
The Musician's Soul
The Musician's Spirit

<u>**Links**</u>
http://www.supportmusic.com/, http://menc.org/, http://www.childrensmusicworkshop.com/advocacy/
http://www.youtube.com/user/schoolmusic, www.youtube.com/user/musicedadvocate, www.ted.com
www.njmea.org, www.benjaminzander.com, www.iste.org

APPENDIX E

EDISON ESSENTIAL INSTRUCTIONAL BEHAVIORS, AND NEW JERSEY CORE CURRICULUM CONTENT STANDARDS

Introduction to Music Technology

Public Schools of Edison Township
Divisions of Curriculum and Instruction

Draft 14

Essential Instructional Behaviors

Edison's Essential Instructional Behaviors are a collaboratively developed statement of effective teaching from pre-school through Grade 12. This statement of instructional expectations is intended as a framework and overall guide for teachers, supervisors, and administrators; its use as an observation checklist is inappropriate.

1. **Planning which Sets the Stage for Learning and Assessment**

   Does the planning show evidence of:
   a. units and lessons directly related to learner needs, the written curriculum, the New Jersey Core Content Curriculum Standards (NJCCCS), and the Cumulative Progress Indicators (CPI)?
   b. measurable objectives that are based on diagnosis of learner needs and readiness levels and reflective of the written curriculum, the NJCCCS, and the CPI?
   c. lesson design sequenced to make meaningful connections to overarching concepts and essential questions?
   d. provision for effective use of available materials, technology and outside resources?
   e. accurate knowledge of subject matter?
   f. multiple means of formative and summative assessment, including performance assessment, that are authentic in nature and realistically measure learner understanding?
   g. differentiation of instructional content, processes and/or products reflecting differences in learner interests, readiness levels, and learning styles?
   h. provision for classroom furniture and physical resources to be arranged in a way that supports student interaction, lesson objectives, and learning activities?

2. **Observed Learner Behavior that Leads to Student Achievement**

   Does the lesson show evidence of:
   a. learners actively engaged throughout the lesson in on-task learning activities?
   b. learners engaged in authentic learning activities that support reading such as read alouds, guided reading, and independent reading utilizing active reading strategies to deepen comprehension (for example inferencing, predicting, analyzing, and critiquing)?
   c. learners engaged in authentic learning activities that promote writing such as journals, learning logs, creative pieces, letters, charts, notes, graphic organizers and research reports that connect to and extend learning in the content area?
   d. learners engaged in authentic learning activities that promote listening, speaking, viewing skills and strategies to understand and interpret audio and visual media?
   e. learners engaged in a variety of grouping strategies including individual conferences with the teacher, learning partners, cooperative learning structures, and whole-class discussion?
   f. learners actively processing the lesson content through closure activities throughout the lesson?
   g. learners connecting lesson content to their prior knowledge, interests, and personal lives?
   h. learners demonstrating increasingly complex levels of understanding as evidenced through their growing perspective, empathy, and self-knowledge as they relate to the academic content?
   i. learners developing their own voice and increasing independence and responsibility for their learning?

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j.   learners receiving appropriate modifications and accommodations to support their learning?

3. Reflective Teaching which Informs Instruction and Lesson Design

Does the instruction show evidence of:

a. differentiation to meet the needs of all learners, including those with Individualized Education Plans?
b. modification of content, strategies, materials and assessment based on the interest and immediate needs of students during the lesson?
c. formative assessment of the learning before, during, and after the lesson, to provide timely feedback to learners and adjust instruction accordingly?
d. the use of formative assessment by both teacher and student to make decisions about what actions to take to promote further learning?
e. use of strategies for concept building including inductive learning, discovery-learning and inquiry activities?
f. use of prior knowledge to build background information through such strategies as anticipatory set, K-W-L, and prediction brainstorms?
g. deliberate teacher modeling of effective thinking and learning strategies during the lesson?
h. understanding of current research on how the brain takes in and processes information and how that information can be used to enhance instruction?
i. awareness of the preferred informational processing strategies of learners who are technologically sophisticated and the use of appropriate strategies to engage them and assist their learning?
j. activities that address the visual, auditory, and kinesthetic learning modalities of learners?
k. use of questioning strategies that promote discussion, problem solving, and higher levels of thinking?
l. use of graphic organizers and hands-on manipulatives?
m. creation of an environment which is learner-centered, content rich, and reflective of learner efforts in which children feel free to take risks and learn by trial and error?
n. development of a climate of mutual respect in the classroom, one that is considerate of and addresses differences in culture, race, gender, and readiness levels?
o. transmission of proactive rules and routines which students have internalized and effective use of relationship-preserving desists when students break rules or fail to follow procedures?

4. Responsibilities and Characteristics which Help Define the Profession

Does the teacher show evidence of:

a. continuing the pursuit of knowledge of subject matter and current research on effective practices in teaching and learning, particularly as they tie into changes in culture and technology?
b. maintaining accurate records and completing forms/reports in a timely manner?
c. communicating with parents about their child's progress and the instructional process?
d. treating learners with care, fairness, and respect?
e. working collaboratively and cooperatively with colleagues and other school personnel?
f. presenting a professional demeanor?

MQ/jlm
7/2009

New Jersey Core Curriculum Content Standards
for Music

[All NJCCCS information was directly copied from the New Jersey Core Curriculum Content Standards.]

**INTRODUCTION
THE VISION**

Experience with and knowledge of the arts is a vital part of a complete education. The arts are rich disciplines that include a vibrant history, an exemplary body of work to study, and compelling cultural traditions. An education in the arts is an essential part of the academic curriculum for the achievement of human, social, and economic growth. The education of our students in the disciplines of dance, music, theater, and visual art is critical to their personal success and to the success of New Jersey as we move into the twenty-first century. The arts offer tools for development. They enable personal, intellectual, and social development for each individual. Teaching in and through the arts within the context of the total school curriculum, especially during the formative years of an elementary K-6 education, is key to maximizing the benefits of the arts in education.

For students, an education in the arts provides:
 ➢ The ability to be creative and inventive decision-makers;
 ➢ Varied and powerful ways of communicating ideas, thoughts, and feelings;
 ➢ An enhanced sense of poise and self-esteem;
 ➢ The confidence to undertake new tasks;
 ➢ An increased ability to achieve across the curriculum;
 ➢ A framework that encourages teamwork and fosters leadership skills;
 ➢ Knowledge of the less recognized experiences of aesthetic engagement and intuition;
 ➢ Increased potential for life success; and
 ➢ An enriched quality of life

Recent studies such as *Critical Links* and *Champions of Change* provide evidence of the positive correlations between regular, sequential instruction in the arts and improved cognitive capacities and motivations to learn. These often result in improved academic achievement through near and far transfer of learning (i.e., music and spatial reasoning, visual art and reading readiness, dance and non-verbal reasoning and expressive skills, theater and reading comprehension, writing proficiency, and increased peer interaction). Additionally, the arts are uniquely qualified to cultivate a variety of multiple intelligences.

For our society, an education in the arts fosters a population that:
 ➢ Is equipped with essential technical skills and abilities significant to many aspects of life and work;
 ➢ Understands and can impact the increasingly complex technological environment around us;
 ➢ Has a humanities focus that allows social, cultural, and intellectual interplay, among men and women of different ethnic, racial, and cultural backgrounds; and
 ➢ Is critically empowered to create, reshape, and fully participate in the enhancement of the quality of life for all.

It is the intent of the standards to ensure that all students have regular sequential arts instruction and that specialization takes into account student choice. This is in keeping with the National Standards for Arts Education (1994) which states:

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> *"All basic subjects, including the arts, require more than mere exposure or access. While valuable, a once-a-month visit from an arts specialist, visits to or from professional artists, or arts courses for the specially motivated do not qualify as basic or adequate arts instruction. They certainly cannot prepare all students to meet the standards presented here. These standards assume that students in all grades will be actively involved in comprehensive, sequential programs that include creating, performing, and producing on the one hand, and study, analysis, and reflection on the other. Both kinds of activities are indispensable elements of a well-rounded education in the arts."*

In New Jersey, equitable access to arts instruction can only be achieved if the four arts disciplines are offered throughout the K-12 spectrum. At the K-6 level, it is the expectation that students are given broad-based exposure through instruction as well as opportunities for participation in each of the four arts forms. In grades 7-8, they should gain greater depth of understanding in at least one of those disciplines. In grades 9-12, it is the expectation that students demonstrate competency in at least one arts discipline. The state arts standards also reflect the same expectations as those stated in the National Standards for Arts Education (1994). The goal is that by graduation all students will be able to communicate at a basic level in the arts, and that they:

> ➢ Communicate proficiently, demonstrating competency in at least one art form, including the ability to define and solve artistic problems with insight, reason, and technical proficiency;
> ➢ Be able to develop and present basic analysis of works of art from structural, historical, and cultural perspectives;
> ➢ Have an informed acquaintance with exemplary works of art from a variety of cultures and historical periods; and
> ➢ Relate various types of arts knowledge and skills within and across the arts disciplines.

The revised arts standards assist educators in delineating the required knowledge and expected behaviors in all four of the arts disciplines. This format reflects the critical importance of locating the separate arts disciplines as one common body of knowledge and skills.

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STANDARD 1.1
The Creative Process

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ALL STUDENTS WILL DEMONSTRATE AN UNDERSTANDING OF THE ELEMENTS AND PRINCIPLES THAT GOVERN THE CREATION OF WORKS IN MUSIC.

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STRANDS AND CUMULATIVE PROGRESS INDICATORS
Building upon knowledge and skills gained in preceding grades,
by the end of Grade 12, students will demonstrate proficiency in:

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1.1.12.B.1 (Knowledge & Skill)
- Understanding nuanced stylistic differences among various genres of music is a component of musical fluency. Meter, rhythm, tonality, and harmonics are determining factors in the categorization of musical genres.
- 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 (Knowledge & Skill)
- Musical proficiency is characterized by the ability to sight-read advanced notation. Musical fluency is also characterized by the ability to classify and replicate the stylistic differences in music of varying traditions.
- Synthesize knowledge of the elements of music in the deconstruction and performance of complex musical scores from diverse cultural contexts.

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STANDARD 1.2
History of the Arts & Culture

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ALL STUDENTS WILL UNDERSTAND THE ROLE, DEVELOPMENT, AND CONTINUING INFLUENCE OF THE ARTS THROUGHOUT HISTORY AND ACROSS CULTURES.

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STRANDS AND CUMULATIVE PROGRESS INDICATORS
Building upon knowledge and skills gained in preceding grades,
by the end of Grade 12, students will demonstrate proficiency in:

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1.1.12.A.1 (Knowledge & Skill)
- Cultural and historical events impact art-making as well as how audiences respond to works of art.
- Determine how music has influenced world cultures throughout history.

1.1.12.A.2 (Knowledge & Skill)
- Access to the arts has a positive influence on the quality of an individual's lifelong learning, personal expression, and contributions to community and global citizenship.
- Justify the impact of innovations in the arts (e.g., the availability of music online) on societal norms and habits of mind in various historical eras.

STANDARD 1.3
Performance

ALL STUDENTS WILL SYNTHESIZE THOSE SKILLS, MEDIA, METHODS, AND TECHNOLOGIES APPROPRIATE TO CREATING, PERFORMING AND/OR PRESENTING WORKS OF ART IN MUSIC.

STRANDS AND CUMULATIVE PROGRESS INDICATORS
Building upon knowledge and skills gained in preceding grades,
by the end of Grade 12, students will demonstrate proficiency in:

1.3.12.B.1 (Knowledge & Skill)
- Technical accuracy, musicality, and stylistic considerations vary according to genre, culture, and historical era.
- Analyze compositions from different world cultures and genres with respect to technique, musicality, and stylistic nuance, and/or perform excerpts with technical accuracy, appropriate musicality, and the relevant stylistic nuance.

1.3.12.B.2 (Knowledge & Skill)
- The ability to read and interpret music impacts musical fluency.
- Analyze how the elements of music are manipulated in original or prepared musical scores.

1.3.12.B.3 (Knowledge & Skill)
- Understanding of how to manipulate the elements of music is a contributing factor to musical artistry.
- 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.

1.3.12.B.4 (Knowledge & Skill)
- Basic vocal and instrumental arranging skills require theoretical understanding of music composition.
- Arrange simple pieces for voice or instrument using a variety of traditional and nontraditional sound sources or electronic media, and/or analyze prepared scores using music composition software.

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STANDARD 1.4
Aesthetic Responses & Critique Methodologies

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ALL STUDENTS WILL DEMONSTRATE AND APPLY AN UNDERSTANDING OF ARTS PHILOSOPHIES,
JUDGMENT, AND ANALYSIS TO WORKS OF ART IN MUSIC.

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STRANDS AND CUMULATIVE PROGRESS INDICATORS
Building upon knowledge and skills gained in preceding grades,
by the end of Grade 12, students will demonstrate proficiency in:

</div>

1.4.12.A.1 (Knowledge & Skill)
- Recognition of fundamental elements within various arts disciplines (music) is dependent on the ability to decipher cultural implications embedded in artworks.
- Use contextual clues to differentiate between unique and common properties and to discern the cultural implications of works of music.

1.4.12.A.2 (Knowledge & Skill)
- Contextual clues within artworks often reveal artistic intent, enabling the viewer to hypothesize the artist's concept.
- Speculate on the artist's intent, using discipline-specific arts terminology and citing embedded clues to substantiate the hypothesis.

1.4.12.A.3 (Knowledge & Skill)
- Artistic styles, trends, movements, and historical responses to various genres of art evolve over time.
- Develop informed personal responses to an assortment of artworks across the four arts disciplines (dance, music, theatre, and visual art), using historical significance, craftsmanship, cultural context, and originality as criteria for assigning value to the works.

1.4.12.A.4 (Knowledge & Skill)
- Criteria for assessing the historical significance, craftsmanship, cultural context, and originality of art are often expressed in qualitative, discipline-specific arts terminology.
- Evaluate how exposure to various cultures influences individual, emotional, intellectual, and kinesthetic responses to artwork.

1.4.12.B.1 (Knowledge & Skill)
- Archetypal subject matter exists in all cultures and is embodied in the formal and informal aspects of art.
- Formulate criteria for arts evaluation using the principles of positive critique and observation of the elements of art and principles of design, and use the criteria to evaluate works of music from diverse cultural contexts and historical eras.

1.4.12.B.2 (Knowledge & Skill)
- The cohesiveness of a work of art and its ability to communicate a theme or narrative can be directly affected by the artist's technical proficiency as well as by the manner and physical context in which it is performed or shown.
- Evaluate how an artist's technical proficiency may affect the creation or presentation of a work of art, as well as how the context in which a work is performed or shown may impact perceptions of its significance/meaning.

1.4.12.B.3 (Knowledge & Skill)
- Art and art-making reflect and affect the role of technology in a global society.
- Determine the role of art and art-making in a global society by analyzing the influence of technology on the visual, performing, and multimedia arts for consumers, creators, and performers around the world.