



Discover Your STEM Skills Through Music - Part 2

EDUO 9921 1 Semester Credit/Unit

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Course Syllabus

Discover Your STEM Skills Through Music, Series Overview

Learn to recognize how the power of music relates to skills used in STEM. Music involves reading, analysis, perseverance, problem solving, assessment and refinement. Challenge your critical thinking skills through hands-on activities that involve analyzing and solving missing components. Educate yourself on the Power of Music through “The Music Advantage”. Required book only for the first course in the series: “The Music Advantage” by Dr. Anita Collins. Several courses require signing up for use of the free app, [Online Pianist](#).

Course Overview

Create and practice rhythms. Discover the Music Pyramid and understand how the value of notes is essential to reading and writing music. Music involves formulas and is organized into measures. Notes are placed on a 5-line music staff to create space between notes and form melodic movement and rhythm. Using technology; conceptualize the space and movement of a melody on a graph.

Course Learning Objectives:

- Understand the cognitive skills learned through reading and playing music.
- Gain an understanding of how to read and create a music map.
- Analyze and identify missing components.
- Explore how technology can be used to express melodic and rhythmic movement through graphs and charts.
- Engage in playing music using technology.

Course Relation to CCS or other Professional Standards

NATIONAL MUSIC STANDARDS

<https://www.nationalartsstandards.org/>

- Creating - Generate and conceptualize artistic ideas.
- Performing - Select, analyze and interpret artistic work for presentation.
- Responding - Perceive and analyze artistic work.
- Connecting - Synthesize and relate knowledge and personal experiences to make art.

How to Submit Coursework

Each completed assignment in this course is submitted to the instructor for review. Follow directions at the end of each assignment on how to prepare and submit your assignments. Name each file submitted with your last name and assignment number (i.e. BrownAssignment3. Make sure you place your full name, course number and assignment number at the top of each document page. You will receive feedback from your instructor within 5 working days indicating successful completion of the assignment or the need for revision. Assignment grades will be averaged for the final course grade. Unless otherwise indicated, place ALL completed assignment in the LMS Dropboxes.

Assignments. There are 5 course assignments to complete.

Assignment 1

Music involves whole numbers, fractions, addition and division. Familiarize yourself with the value of notes through the Music Pyramid.

- Research the Music Pyramid and fill in the blanks with the appropriate notes on ASSIGNMENT 1.
 - Submit Assignment 1 to Dropbox 1.

Assignment 2

Connect your skills to Math. Learn how to create a rhythm. Referring to the Music Pyramid; create measures of music on Assignment No. 2.

- Using a Time Signature of $3/4$, the notes in each measure must add up to 3. The Time Signature of $4/4$, the notes in each measure must add up to 4. In $6/4$ time the notes must add up to 6.
- In the box under each note, identify the value of each note.
- Perform and assess your rhythm by clapping, tapping or playing your rhythm on the virtual keyboard.
 - Submit Assignment Number 2 to Dropbox 2.

Assignment 3 Decode the Tune

Reading, problem solving, spatial analysis and listening skills are required to decode the 6 familiar melodies in Assignment 3. The short tunes are in the form of a Music Map. Open the Virtual Keyboard; onlinepianist.com or other keyboard to assist with the assignment.

- Observing the upward and downward movement, short and long notation, the skips and stepping motion of the lines. Tap or Clap the code.
- Using the Virtual Keyboard; click on Letter Names to see the letters on the keys. Play the opening pitch (letter) to give yourself a beginning pitch and hum or whistle the melody with the map.
- Experiment with steps or skips on your virtual keyboard to **solve** the name of the tune. Refer to Exhibit 1 and assign a Music Letter
- Assign a Letter Name to each code mark. Test your Letter Names with the virtual keyboard or other instrument.

- Fill in the Letter Names and Color the letter names on Assignment 3 with corresponding color markers. **Take a photo to submit.** Complete the Answer and Submit Assignment 3 to Dropbox 3.

Assignment 4 Connect Music to Technology.

Exhibit 2 reflects an example of a simple graph depicting the melody of “This Land is Your Land”

- Create and **submit** graphs reflecting the melodies of the 6 songs in Assignment 3. Experiment with Line Graphs, Charts, Spreadsheets, Special Characters. Google Drive can be useful for this section. Be Creative with each melody. Submit your completed work to Dropbox 4.

Assignment 5 Read Dr. Anita Collin’s book “The Music Advantage” **or** the article written by the National Association for Music Education , “The Important Benefits of Music in our Schools” listed in the Resources Section.

- Reflect on the assignments in this course and submit a brief summary of the cognitive skills needed to complete the assignments. Submit Assignment 5 to Dropbox 5.

Course Materials and Resources Section:

National Music Standards <https://www.nationalartsstandards.org/>

Book: “ The Music Advantage - How Music Helps Your Child Develop, Learn and Thrive,” by Dr. Anita Collins; ISBN: 978-0593332122, also available at libraries.

<https://nafme.org/important-benefits-of-music-in-our-schools>

Musicnotes.com

Virtual Keyboard; onlinepianist.com

Course Assessment Rubric:

EXCELLENT	ACCEPTABLE	NOT ACCEPTABLE
Meets or Exceeds Course Objectives: A to A-	Majority of Work Meets Course Objectives; B+ to B-	Needs Considerable Improvement: Resubmit Work Suggested: C or below
All work submitted reflects in-depth understanding of course objectives.	Most work submitted reflects in-depth understanding of course objectives.	Work shows little or no in-depth understanding of course objectives.
Assignment responses show evidence of new knowledge evidenced by thoughtful, detailed and accurate assignment responses.	Most assignment responses show evidence of new knowledge evidenced by thoughtful, detailed and accurate assignment responses.	Responses show little to no evidence of new knowledge as evidenced by lack of thoughtful, detailed and accurate assignment responses.
Work submitted was organized and clearly articulated. The student carefully followed all assignment instructions. The instructor did not have to provide continual assignment clarification or request revisions.	Most work submitted was organized and clearly articulated. The student carefully followed all assignment instructions. The instructor had to provide continual assignment clarification or ask for revisions.	Work submitted was not organized or not clearly articulated. The instructor had to provide constant clarification and ask for continued revisions.

Assignment content and required projects were original.	Assignment content and required projects were original.	Evidence that not all assignment content and required projects were original.
Work is free of spelling and/or grammatical errors.	Work has few spelling and/or grammatical errors.	Work has numerous spelling and/or grammatical errors.