<table>
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<tr>
<th>Primary Competency That Best Embraces This Project</th>
<th>Secondary Competency (if any) That Best Embraces This Project</th>
<th>Name</th>
<th>Best Way to Contact You</th>
<th>Teaching Institution</th>
<th>Teaching Context (kind of class)</th>
<th>Project Purpose and General Description of What You Have Your Students Do</th>
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<tr>
<td>1. Enter and edit music using notation software</td>
<td>7. Demonstrate an understanding of MIDI and its applications</td>
<td>Jennifer Amaya</td>
<td>951-312-8213 Pacific Polytechnic University, Pomona</td>
<td>Orchestration &amp; Arranging</td>
<td>In my arranging course, I require students to use Sibelius for all of their projects, but also to use it CORRECTLY. There are still students in my upper division arranging course that do not know the difference between a tie and a slur - they simply think of them as equally beautiful &quot;lines&quot; that appear on the page, without regard to what they mean. This is just one example of how forcing them to use technology can actually teach them something about music. It is very easy to catch this mistake in a notation program. I can explain this multiple times, and still have students weeks into the quarter who are confusing ties with slurs. Eventually, they get it, but I am not sure if they would ever get it if it weren't for me forcing them to use the technology, which provides them with immediate feedback. Additionally, I am preparing them for the real world. Many of them, although they do not know it yet, will end up having to arrange something, and the expectation nowadays is for music to be printed and looking publish-ready. Not only is that an expectation, but it is really a necessity, should the student expect to have their music sound good during the first rehearsal - it simply must look and be noted correctly. So, most of my orchestration and arranging &quot;grading&quot; has to do with how well the student can actually notate a piece of music, using a software notation application.</td>
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<tr>
<td>1. Enter and edit music using notation software</td>
<td>2. Understand the basics of digital audio and how to edit digital audio files</td>
<td>Charles Menoche</td>
<td><a href="mailto:MenocheC@mail.ccsu.edu">MenocheC@mail.ccsu.edu</a> Central Connecticut State University</td>
<td>Music Tech class</td>
<td>Perhaps the most unique (though I am not alone on this) is including &quot;performance&quot; exams for many of my music technology classes/instruction. Not very unique as it is obviously lifted from the approach to many/most methods classes in music education programs. In addition to a written exam, I include is a &quot;performance&quot; exam where they come in for class the day of the exam, I hand them a selected piece of music, and they have to enter, proof, print, and then submit the file by the end of class. So facility with the skill, in addition to familiarity/concepts, is key. I explain to the students that being able to do something well, producing a good product, with efficiency is key for the chances of my students using the skills after class. I use the comparison to having to write in all of the names of notes or fingerings in a piece of music gets in the way of making music/learning music.</td>
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<tr>
<td>1. Enter and edit music using notation software</td>
<td>4. Demonstrate an understanding of copyright and fair use</td>
<td>Alex Ruthmann</td>
<td><a href="mailto:alex.ruthmann@gmail.com">alex.ruthmann@gmail.com</a> New York University</td>
<td>Various music classes and settings (MOCC)</td>
<td>At ISU all students in this class teach their own class each week at our lab school. I want students to begin shifting from thinking about themselves and how it feels for them to teach little kids to being able to see the students and think about how the students are responding to them as a teacher. One of the assignments they complete is a composition based on a rhythmic chant. They develop a chant that is developmentally appropriate for the age group of children they teach. They notate it in some sort of software and save the file as a PDF so their peers can open the file even if they don't own the music software. They teach their peers their chant and get feedback and make changes if necessary before teaching it to their students at the lab school. The teaching episodes are videotaped and preservice teachers are graded based on their ability to design a lesson and teach that is age appropriate for the grade level. Then a month later they take their chant and turn it into a pentatonic melody and create a very simple Orff accompaniment. Again what I am looking for is how well they understand the developmental level of their students and how to implement their composition so most students are successful. An added challenge is most classes include students who are either deaf or blind.</td>
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Available from: www.peterrwebster.com
1. Enter and edit music using notation software
   Kevin Austin
   kevin.austin@videotron.ca
   Department of Music, Concordia University, Montreal
   Introductory music theory [from note names to chords]
   Basic music theory [from chords to harmony]
   All work was done with a basic music notation program. Work was submitted in pdf and mp3 formats as email attachments. It required students to always hear what they were writing.

2. Understand the basics of digital audio and how to edit digital audio files
   Gena Greher
   Gena_Greher@uml.edu
   University of Mass at Lowell
   Tech in Music Ed class; Computational Thinking in Sound
   AUDIO-ETHNOGRAPHY: THE SOUNDTRACK OF YOUR LIFE. Autoethnography is a personal narrative that explores the writer's experience of life. Focuses on the writer's subjective experience, rather than the beliefs and practices of others. Instead of a written narrative, you will be creating an audio narrative of who you are. Your materials will be a collection of music that describes you, reflects your interests, represents the type of music you enjoy, or anything else that will give us an idea of who you are and what makes you tick. You may also include other non-musical sound sources to enhance your presentation. One piece of music played from start to finish will not cut it. You will need to work with at least a half dozen musical sources that you will edit, process, and layer into a cohesive musical narrative of exactly 300 seconds ... not a second more or a second less.

3. Record and mix a performance with production with digital audio software
   Richard Dammers
   Dammers@rowan.edu
   Rowan University
   Technology Class
   In my Educational Technology course, my students use apps on their phones and on the school's iPads to form several iBands (trios and quartets). The students are asked to either cover a song or come up with their own original work. After spending a class period (plus any voluntary additional rehearsals before the next class), each iBand plugs into the JamHub Mixer and performs for the class. All of this is a prelude to the discussion about the affordances and limitations of iPads and smartphones as instruments, as well as sharing reflections on their experience in an informal music learning setting. These discussion usually lead to a class conclusion that iBands and informal musical learning can broaden our approaches to music learning and may be effective for students that are not as well served by traditional music instruction.

4. Demonstrate an understanding of copyright and fair use
   Ray Riley
   rileyr@alma.edu
   Alma College, Michigan
   Piano Class
   We've asked students to create hybrid ensembles of acoustic and digital "instruments"... (iPads, phones, laptops and various apps or software) to create new arrangements of familiar tunes, and in the near future they will be composing original pieces for kid-friendly hybrid ensembles. They will record one of their arrangements, put it on SoundCloud, and then give comments to each other.

5. Use and manage a variety of social music sharing tools (e.g. iTunes, Spotify, Pandora)
   Sandra Stauffer
   Sandra.Stauffer@asu.edu
   Arizona State University
   Art of Teaching Music to Children
   One of the projects I do with my freshman introductory students that has produced very good results and the students get very interested in is a recording project I do with Garageband. The requirement is to record a short story or poem and then via MIDI recording and Apple Loops, creating a sound track to accompany the recording. As we prep for this, we listen to examples, talk about dramatic elements and consider how a sound track really effects the story line. This semester, I got everything from "The Raven" to "Snoopy and the Red Baron".

6. Demonstrate an understanding of MIDI and its applications
   Timothy Nord
   nord@ithaca.edu
   Ithaca Collete
   Music Tech Class
   In my piano studio, I have on occasion looked to technology for reinforcing some aspect of instrumental pedagogy or even research. For instance we established a policy some years back that we would no longer photocopy any scores for students, even single pages from an edition. Students needed to either purchase printed editions of their music or look to the Web for a digital version. It has led to some very interesting explorations of copyright, public domain, as well as comparisons of various editions found at the Petrucci Music Library. Another sometimes ad hoc experiment has been to have my students record passages from their repertoire in a MIDI application (GarageBand or Logic) and look at MIDI performance data (duration, velocity contours, sustain pedal maps, etc.) to better understand musical elements such as rhythm, evenness, voicing and balance, legato, expression, and harmonic rhythm. It helps to have a first-rate 88-note MIDI keyboard with good sampled pianos.

Available from:
www.peterwebster.com
## Exemplars for Music Teaching and Technology Competencies

Peter Webster  
David Williams

### Available from:

[www.peterrwebster.com](http://www.peterrwebster.com)

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<th>Competency</th>
<th>Instructor</th>
<th>Affiliation</th>
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<tr>
<td>4. Demonstrate an understanding of copyright and fair use</td>
<td>Alex Rothmann</td>
<td>Various music classes and settings (MOOC)</td>
<td>Multitrack Balancing and Mixing- Peter Gabriel mixes; several projects within the Playwithyourmusic environment (<a href="http://www.playwithyourmusic.org/">http://www.playwithyourmusic.org/</a>)</td>
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| 2. Understand the basics of digital audio and how to edit digital audio files | Jane Kuehne      | Auburn University                  | Music Education Methods - Elementary General, Secondary General, Choral  
COPYRIGHT LAWS  
Using the link to the website that contains the full copyright law, choose ONE chapter and ONE appendix and post summaries of each here. RESPOND to one other person's posts with a question. RESPOND to anyone's questions about your post. These will be discussed in class (lab time).  
FAIR USE and COPYRIGHT PSA  
Outline and record a 3-5 minute video Public Service Announcement (PSA) targeted at educators who may or may not realize they are violating copyright law. Be sure to write your text/outline your main points BEFORE recording. Main points to include: What is Fair Use? What is legal and what is not legal specifically for music educators? Provide solutions for difficult situation (i.e. low budgets). Include at the end (or in your comments section) a list of references (you should have at least 5). |
| 5. Create a music presentation with production software and appropriate hardware | Ray Riley        | Alma College, Michigan             | Various classes  
AUDIO DOCUMENTARY PROJECT  
One my my favorite projects that has been done in various course titles has been what I call the audio documentary. Students choose a musical topic that can easily accommodate the inclusion of several music examples. The idea is to create an NPR-like documentary which weaves in and out of voice narration and music. Attached is a screenshot with the basic outline of the project from Moodle. I don’t know if this is necessarily that creative or innovative but this project is always one that students seem to enjoy the most. |
| 7. Demonstrate an understanding of MIDI and its applications               | Jay Dorfman      | Boston University                  | Music Technology class  
For the last several semesters I've been having my students independently create cover versions of popular songs. They are allowed to download MIDI files to use as "scratch" tracks, then they edit and delete MIDI parts and replace them with real instruments. They document the steps they take to make the project, and present these to the class by explaining what they did. It pushes them out of their comfort zone because they usually sing some parts and play instruments on other parts; not all of the students play instruments for this project in which they specialize. They also call on each other to collaborate when there is a part they would rather not play themselves. |
5. Create a music presentation with production software and appropriate hardware
   Jennifer Amaya (951) 312-8213 California State Polytechnic University, Pomona Service-Learning
   I teach a music service-learning course that is a requirement for all of our undergraduate music students. The course requires our students to go out into the community, to complete large group service projects. We often work with elementary schools or after school programs, to teach younger students about music. Over the past year I have encouraged my service-learning students to incorporate technology into their projects. We have done this in a variety of ways. For example, at an elementary school, we have one day (about an hour) to spend with all of the 4th graders, to encourage them to join the orchestra in 5th grade. We set up 4-5 “stations” that offer a variety of musical lessons, from making craft instruments to recording themselves singing. Specifically with the technology component, our college students have brought small DAWs with them and prepared files in Pro Tools that encourage the students to want to participate - either by singing, stamping, rapping, or clapping along. We choose songs and materials that speak to the 4th grade age group. We let them see the entire process - they get to watch the computer screen - and we briefly explain what they are seeing, and how audio is recorded, how it shows up on the screen, and how we can play it back and edit it. We teach them a bit about how to speak or sing into a microphone, as well.

6. Create a streaming audio file (sharing recordings)
   Francesca Arnone francesca_arnone@baylor.edu Baylor University Applied, Methods, Chamber Music Record rehearsals, practice sessions, performances, teaching demonstrations. Lately most of my students use Tonal Energy for just about everything - from recording on smart phones to practicing with a reference tone (multi-layered), metronome, intonation work; imaging vibrato speed and amplitude, plotting accuracy in recordings with metronome/intonation tracking.

10. Create and edit a simple music video
    Richard Dammers Dammers@rowan.edu Rowan University Instrumental Methods Class In my Instrumental Methods course, I take videos of the students as they take turns rehearsing the in-class concert band formed by their peers playing secondary instruments. I then deliver the videos to my students via dropbox. The students load their videos into GarageBand and overdub an audio track of their own reflective commentary, discussing their own rehearsal, before returning the video to me via dropbox. I've found this approach gives students a helpful frame for examining their work and is particularly effective in assisting students in focusing on their pacing in rehearsal. Watching rehearsal videos is not always easy for young teachers, and is sometimes avoided. This approach ensures that the students actually do watch and reflect on their teaching.

10. Create and edit a simple music video
    Stella Sick ssick01@hamline.edu Hamline University Piano Class PROJECT PRACTICE I had my students create short, unedited videos of their practicing, so that I can take a glimpse of how they do when I am not hovering over their shoulders. Directions: You will create a short 2-5 minute video in which you practice a tough passage or a small section of a piece. Keep the passage short (maybe 2 - 8 measures?) so that we can check out your practice strategies. Upload your video to the group on Facebook. Watch each of the videos in this group, and in the comment section of each video (including your own, if you would like). Also add other positive and constructive comments.

11. Use and manage a variety of social music sharing tools (e.g., iTunes, Spotify, Pandora)
    Sarah Samuelson sesamuelson@pugetsound.edu University of Puget Sound Elementary Methods class Most of my students have been familiar with iTunes and Pandora, so I have introduced them to Naxos music library. I created playlists of music for my students to analyze and become familiar with American folksongs and other well-known folksongs from other countries since there were so many which were unfamiliar to the students. My playlists are: Songs Every Child Should Know (based on a NAfME list), Songs for Primary, Classical Kids-Educational Music Stories, and Music Listening Playlist. For one assignment I will have students listen to the “Songs Every Child Should Know” as part of their final assignment to design a year-long curriculum calendar. They will decide when during the calendar year they would plan to incorporate the song and for which grade level it would be appropriate. Another part of the assignment encourages students to analyze the ensemble, the arrangement or the particular song, and using Naxos find an arrangement of 1-2 songs which could contrast to the ones I’ve selected. I also have developed playlists based on the pieces highlighted in the book Shaping Sound Musicians by Patricia O’Too – music for beginning, Band, Choir and Orchestra – as part of an assignment for developing a literature library. In addition to iTunes and Naxos, I have introduced students to a subscription based music downloading source that I’ve used for many years, www.emusic.com. I have been able to purchase and download music from a variety of genres, styles, and countries at 1/2 the price of iTunes. I have quite a library of digital downloaded music now.
The purpose of this assignment is to familiarize you with some digital technology tools available for use in the music education classroom. In this case, you will arrange a "warm-up" chorale for an instrumental or vocal ensemble. Part of this project is "messing around" with the apps, to figure out how they work, and how they can work for you and your future students. You are encouraged to try them out, and ask your friends (and instructor) for help, if needed. 1) Select 6-8 measures from a chorale by J. S. Bach. 2) Using Noteflight in the Inside Music app, arrange your chorale for an ensemble of your choice, for four separate parts & staves. I would suggest using your own content area (example a horn player might score a brass quartet; strings, a string quartet; percussion, perhaps a marimba quartet; vocalists, four voices on a "la" syllable or simply four single piano lines, etc.). Winds and brass: be careful regarding transcriptions - I would suggest doing your score in C. 3) Print out a copy of your score, or you may use your screen as "sheet music." 4) Open Soundland4education, and using the multi-track recorder, create a recording of your 6-8 measure chorale, with any live (must be live) instruments you would like (you could play all parts on your instrument, have friends on different instruments play a part, etc.).
<table>
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<th>Prerequisite Technology Skills That May Be Required</th>
<th>Technology Skills That You Feel They Need to Learn in the Process of Completing the Project</th>
<th>Time Frame</th>
<th>End Product(s) That Are Likely Created and How They Are Evaluated</th>
<th>Any Other Comments That You Would Like to Share</th>
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<tr>
<td>Computer skills and basic knowledge of a music notation software application.</td>
<td>Basic computer skills and basic knowledge of a music notation software application. (A lot of what they need to know is MUSICAL, which can actually be taught by the software.)</td>
<td>in this particular case, it took nearly an entire quarter for all of the students to figure out how to use the software “tool” effectively.</td>
<td>Arrangements, beautifully notated. They are graded on how they use the instruments they choose, and how well they combine instruments, based on what they have learned about them; however, they are also graded on the presentation of the materials.</td>
<td>I have presented this at the AOSA Conference with my lab school general music teacher, Donna Zawatski. We refine it a bit each year but it is pretty much the same each semester now. My students love doing this and many say it is the first time they have ever composed!</td>
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Previously in music theory classes Sibelius was taught to all students and it is available in our tech labs. Now students seem to use a variety of notation software so as long as they can convert it into a PDF I encourage them to use whatever notation program they like best.

Notation programs, including how to enter lyrics. How to create a PDF. Some end up taking pictures of a printout of their music or scan.

Two weeks.

Notated rhythmic chant with body percussion and lesson plan for teaching it. All of these are shared with their peers via my Dropbox so the students go away with about 25 chants that range for K-5 grade levels. I do the same thing with the melody they develop later in the semester. They usually do not teach the melody to their class because it is turned in during the last week of classes. I see these assignments with the videotape of the teaching as sort of a final exam but in a performance-based context. I am attaching the assignment description and the rubric I use. We work together as a class to develop descriptors for the rubric during the week I teach assessment.
None. Students read a basic description and figured out the rest.

This was done 6 - 10 years ago. Few students had laptops, most worked at home. Today, at the age of 18, these are post-internet brain students. While high schools might still have used paper, paper and writing are like doing a thesis with a typewriter.

They learned the basics in a matter of minutes. The tools use wasn’t evaluated. Almost no one had problems with the software after the first week.

Most of the skills listed, apart from number 1, are used in the core first-year courses in the Electroacoustic Studies program. Students in the music program previously showed limited interest in “sound as sound”, but rather “sound as the realization of symbols/documentation of performance”. The introduction of “Digital Music” programs, largely populated by song-writers, pop/rock composers and band members often want: 1, 2, 3, 6, 10, 11. These are very ‘practical’, while in terms of life-long educational necessities, IMV 4 and 9 are more important. New software [eg film score packages, and gaming audio file creation] are accessing meta-data and data mining techniques that, for a general population, will return more useful sound materials than a [slightly trained musician who wants to write songs.

As was somewhat in the 1970s, the machine-age technologies have democratized and broadened the base of music making, both important and good [IMV]. A result is 1,500,000 new songs every year, most available on Youtube, many created in GarageBand, Abletone Live kinds of home studios, with auto tune. Thirty years ago, the question / issue was the technology. IMV, this is no longer the case, now it is about musicing. The technology is [simply] tools. The educated musician needs to be able to hear - both the outer and the inner ear.

Using an audio editing program like Audacity to come up with a meaningful project

While the generator for this project is learning how to use the tools, the underlying element is dealing with affect, how music and/or sound effects influence us.
For these, they only need to be able to use a word processor/discussion board. But, the focus is copyright and ethics of computer use with kids and informing kids about targeted marketing. For the PSA (see below), they need simple video editing tools. We use free editors either online or that are available natively on Windows and Apple computers. Our Learning Resources Center also has digital video cameras for check out.

### Video and Audio editing (see note above)

These are completed over a period of 3 classes (3 semesters)

1st class: Copyright Law, Fair Use
2nd class: Copyright Organizations
3rd class: Ethics, youth, and the internet

### COPYRIGHT LAWS

Using the link to the website that contains the full copyright law, choose ONE chapter and ONE appendix and post summaries of each here. RESPOND to one other person's posts with a question. RESPOND to anyone's questions about your post. These will be discussed in class (lab time).

**EVALUATION:** Rated on a scale of 1 to 4 (low to high) in these areas (4=A, 3=B, 2=C, 1=D, 0=F): 1. Completion (this is 4 - complete or 0 - not complete) 2. Accuracy (4 - accurate, 3 - missing some info, 2 - missing vital info, 1 - not accurate) 3. Grammar (4 - no mistakes, 3 - minor mistakes, 2 - noticeable mistakes, 1 - many mistakes)

### FAIR USE and COPYRIGHT PSA

Outline and record a 3-5 minute video Public Service Announcement (PSA) targeted at educators who may or may not realize they are violating copyright law. Be sure to write your text/outline your main points BEFORE recording. Main points to include: What is Fair Use? What is legal and what is not legal specifically for music educators? Provide solutions for difficult situation (i.e. low budgets). Include at the end (or in your comments section) a list of references (you should have at least 5).

**EVALUATION:** Rated on a scale of 1 to 4 (low to high) in these areas (4=A, 3=B, 2=C, 1=D, 0=F): 1. Completion (this is 4 - complete or 0 - not complete) 2. Accuracy (4 - accurate, 3 - missing some info, 2 - missing vital info, 1 - not accurate) 3. Grammar (4 - no mistakes, 3 - minor mistakes, 2 - noticeable mistakes, 1 - many mistakes) 4. References (4 - all 5 there, 3 - only four, 2 - only three, 1 - only one or two, 0 - no references) 5. Audio/Video Presentation (4 - smooth transition(s), clear imaging, good sound, etc. 3 - some transition issues or image issues or sound issues, etc. 2 - multiple issues with the video presentation including transitions, sound, images, etc. 1 - video is incomplete, messy, lacks transitions, image correction, audio correction, etc. i.e. "raw" video)
For our college students, they need to have a solid understanding of a DAW, and decent recording skills. The college students need to learn how to work with a large group of rambunctious young students - how to corral them, how to speak to them, etc. It forces our college students to think differently about technology, and to have to explain it in very simple terms. They also have to think about when they are setting up their sessions, preparing for a time constraint, knowing where to punch in/out, etc.

This sort of project is done within 15-20 minutes, with the young children; however, the college students spend several hours preparing for those 15-20 minutes. The college students end up editing together a track (sometimes several tracks, separately), that they eventually provide back to the students' teachers. The tracks contain the students' voices, sometimes something recorded by their teacher, and often some pre-recorded materials. For a service-learning class, the college students are graded on the project as a whole, not necessarily on the resulting quality of the tracks they produce. But what they learn from the experience is incredibly invaluable.

Using a smart phone (with internal or external mics), camcorder, H3, or other device; using Tonal Energy or other apps for recording and assessing progress. Lately most of my students use Tonal Energy for just about everything - from recording on smart phones to practicing with a reference tone (multi-layered), metronome, intonation work; imaging vibrato speed and amplitude, plotting accuracy in recordings with metronome/intonation tracking. We also use online polls (doodle), sign up sheets (google docs), and my entire class is now on a password protected area on my website rather than using Canvas or Blackboard.

Use from semester to personal websites for private use or job applications, competition submission, semester (throughout degree program) rubrics for self and class assessment.