Projects

When we started the semester I was planning to have everyone do a class project, but I’ve realized that the class size is too large to accommodate this. Therefore, you have three options:

Option A: Status quo, as in the syllabus. This isn’t to your advantage, but I did promise it in the syllabus...
10% Quizzes (lowest two grades dropped)
15% Homework (lowest grade dropped)
10% Project
5% Class participation
30% Two tests
30% Final exam

Option B: No project. This is a good option if you have an acceptable grade for the tests, quizzes, and homework:
13% Quizzes (lowest two grades dropped)
17% Homework (lowest grade dropped)
5% Class participation
35% Two tests
30% Final exam

Option C: Project counts for extra credit. Same as Option B, but the project counts a maximum of one letter grade (10 points on a 100-point scale). Note that only outstanding (A+) projects will receive full credit.

Description of project. The project develops some aspect of the class in more detail. Each project includes a 5-minute presentation to the class, done in the last week of classes, and a 3-5 page (double spaced) essay explaining the mathematics behind your project, plus additional supporting materials. The written portion of the project is due at the final exam.

1. Explain the mathematics behind Pythagorean tuning. Make an Audacity file that demonstrates this system.

2. Write a round and use abcdrums to play it.
3. Write a drum composition using abcdrums that demonstrates the rhythmic patterns we studied in class (we're starting on rhythm Tuesday).

4. Create a “found sound” composition using Audacity. You can record sounds and/or use short clips of existing recordings (less than 10 seconds). Use transformations and effects in Audacity to make something entirely new.

5. Build a monochord and use it to demonstrate the relationship between the length of a string and frequency.

6. Propose your own project! Please run it by me before you start.
More on Projects

**Write a Round.** Write a round and use abcdrums to play it.

What to do: First, make sure you understand how rounds work and how to identify consonant intervals. Then, start by writing the first phrase of the round, then add phrases that harmonize with it like we did in class. Make sure that, for the most part, all the intervals formed are consonant. You should also experiment with the techniques Bach followed: retrograde, inversion, and retrograde inversion. And write some words!

What to present: Make a MIDI file of the round that you can play for the class. If you want, try something more creative like recording the round with actual instruments or singers, or teaching the class to sing it. Make at least one PowerPoint side that illustrates what you’re doing.

What to hand in: Your 3-5 page (double-spaced) essay should explain the steps you followed to create the round. Also, describe any other ways it can be played—for example, are there other ways to add the voices? What does the round sound like in retrograde? As supporting documentation, print a screenshot of the abcdrums notation you used.

**Write a Drum Composition.** Write a drum composition using abcdrums that demonstrates the rhythmic patterns we studied in class.

What to do: Decide on how many beats you want per measure (this can change during the piece, but most pieces stay in the same time signature). Create drum patterns whose length is equal to or a multiple of this number. Experiment with complementation, diminution, augmentation, and retrograde to create new patterns that are related. (You can also write patterns whose total length is not a multiple of the length of the measure, then experiment with polyrhythms.) Write a composition using a number of different drums playing these patterns.

What to present: Make a MIDI file of the composition that you can play for the class. If you want, try something more creative like recording your piece with actual instruments. Make at least one PowerPoint side that illustrates what you’re doing.

What to hand in: Your 3-5 page (double-spaced) essay should explain the steps you followed to create the composition. Use some of the vocabulary we discussed in class. As supporting documentation, print a screenshot of the abcdrums notation you used.