

Workshop Proposal

Electronic Music

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Session Overview

This four-day session is intended to give students an introductory understanding to electronic music. Beginning with a historical overview of electronic music, the class will develop through workshop, demonstration, lecture, and performance. The first three days will be divided into three portions- presentation, workshop, and performance; the fourth day will be devoted to review of the compositional process, and concert preparation. The class begins with a presentation of material, including musical examples, verbal explanations, and slideshows. The second portion of class is a workshop whereupon students build instruments or experiment with various tools for sound manipulation. For the final section, students will work on their compositions and perform for each other, and will be asked to evaluate their peers' performances constructively. Because each student hears differently, evaluating performance will teach students to broaden their ears and listen in new ways. Ways to critique constructively will be discussed.

The session will conclude with a performance of compositions developed by the students throughout the session.

Class Breakdown

Day 1

This class will begin with a historical overview, exploring the ways in which technology relating to art and music has developed over the last fifty years, paying special attention to the construction and development of the earliest electronic instruments. The class will continue with a workshop in basic electronics, and students will learn the fundamental components necessary in building circuits. Students will each construct their own optical theremin, and will be given the opportunity to experiment with various sizes and types of sensors to activate their theremin. The students will then listen to examples of theremin pieces, and will be asked to transcribe some of the works graphically. Graphic notation will be briefly discussed, as well as the differences between improvisation, structured improvisation, and composition. Emphasis will be placed on the importance of imposing limits in performance to structure improvisation; students will be asked to come up with possible limitations. The students will then divide into small (three or four students each) ensembles and perform either an improvisation or a graphically notated score of their composition for the class. Before the performances begin, students will be presented with a variety of techniques for evaluation which are essential for effective collaboration and ear development. After each performance, there will be a brief critique session.

Day 2

Beginning with a class demonstration, this class focuses on the vast possibilities inherent in amplification. Several kinds of microphones will be demonstrated, from contact mics to lavaliers to vocal mics, and various possible applications will be presented. Feedback will be explained and demonstrated, and we will explore positive uses of feedback. Examples of real-life uses for amplification techniques will follow- musical examples will include Franz Hautzinger, Skuli Sverisson, and Andrew Greenwald; plus a live performance of "BX-51" (a solo flute piece) with and without amplification to demonstrate the difference. The workshop aspect of class will consist of each student experimenting with contact mics to find sounds inaudible to the human ear. (There will be a brief demonstration of the building of a contact mic, but the students' mics will be prebuilt.) Students are encouraged to amplify instruments, found objects, and their own bodies. Each student

will be asked to find one sound they'd like to work with. The third portion of class will consist of manipulation of this sound. Students will discover how coupling mics and using location to diffuse the sound can influence the output, and will explore physical means of sound manipulation. Further exploration will include examples of software used to manipulate sound and various techniques (distortion, granular synthesis, pitch-bending). If time allows, students will again perform in groups, using their new instruments, and will be asked to begin thinking about their group composition (each ensemble will be required to compose one unified work as a group, to be performed at the end of the session). Questions to be answered at the end of the session will be posed at the end of this class to allow ample time for consideration- students will be required to discuss their compositional processes, including limitations placed to form the structure of the compositions; any difficulties encountered both musically and collaboratively (with ensemble members); frustrations encountered; and degree of success felt about the composition.

Day 3

This class will begin with a discussion of the building blocks of sound- sine, square, and triangle waves; white, pink, and brown noise. The frequency range of each of these sounds (as applicable) and of sounds occurring in the natural and human-made world will be explored. Students will learn the basics of FM and AM transmission, and the physical definition of the sound as electrical current. The class will explore the sounds created by electricity; the concept of silence will be examined. After achieving a fundamental understanding of the physical properties of sound, a demonstration of varying levels of interference will follow- this will include demonstration of the beating that occurs from closely tune pitches, difference tones through certain combinations of sound, and acoustical and psychoacoustical phenomena. Along with aural examples, visual representations will be presented. Students will be asked to match aural examples to corresponding graphical representations and vice versa; and will create their own pictorial representations of several examples. Musical examples using interference as melodic material will follow; these will include compositions by Chiyoko Szlavnic, Tristan Perich, and natacha diels. Students will then divide into groups and continue work on their compositions- they will be required to use at least one technique they have learned

throughout the course of the session. The class will end with a performance and evaluation of each ensemble's work-in-progress.

Day 4

This class will be devoted to reviewing the compositional process, and to the upcoming performance. In the first half of class, the aforementioned questions will be discussed: each student will discuss his or her compositional process, including limitations placed to form the structure of the compositions; any difficulties encountered both musically and collaboratively (with ensemble members); frustrations encountered; and degree of success felt about the composition. This dialogue is intended to raise debates and discussion in a manner similar to that which is commonly found within the music community.

The students will spend the second half of class completing work on their compositions; any student wishing to incorporate additional software manipulations will have the opportunity to do so during this period; and the class will begin to create the environment for the performance. The importance of visual elements will be discussed, and students will brainstorm and discuss how they want the venue to be 'dressed'.

Elements such as stage setup, programming, and lighting will be decided as a class.

If the performance is to take place outside of school, the class will need to show up to the venue no less than 2 hours before the performance time to set up the area and run a complete sound check of each piece. If time allows, footage from multi-media works throughout history (short films) will be presented.

Key Elements learned:

An understanding of the components used in basic circuits for electronic instruments

A basic knowledge of the physical properties of sound

Historical background regarding the development of electronic music, to present day

An awareness of sound and silence

Cultural understanding of the importance of technology in modern art and music

Creative experience in graphic score development, improvisatory performance skills, and musical composition skills

Elements necessary for concert production and performance

Collaborative techniques in the art world

Ear development through trained listening (assisted by evaluation of performance)