

Sound Studies and Sonic Arts

Summer Term 2018

Module Focus Workshop

Course Title Algorithmic Thinking in Art and Music

Course Times and Location May 7, 8, 9, 11, 2018 / 10 a.m.- 5 p.m. / LIE314

Instructors [Scott Cazan](#)

Email office@sounds.berlin

Office Hours and Location upon request after class

Course Description

We will explore the idea of the algorithm and algorithmic thinking in text scores, conceptual art, visual arts, film, instrument design, and of course computer music. We will look at artists and composers who have engaged with algorithmic thinking such as Sol LeWitt, Hanne Darboven, George Brecht, David Tudor, Yoko Ono, Lejaren Hiller, and numerous others. We will also address algorithms in the context of computers and learn some common techniques used in algorithmic composition with an introduction to the programming language SuperCollider.

This workshop is designed to provide an analysis of the ideas and tools of algorithmic art and music and give students the basic tools needed to utilize and think about algorithms in their own work. Through a series of workshop sessions, we will perform algorithmic works, create our own, discuss, and debate our own thoughts about algorithms. This class is especially good for those who are either new to any sort of algorithmic OR computer-based art as well as those who are new to thinking of their own advanced programming skills in the context of fine art.

Requirements for attending

We will be writing code together in class, so students must have a computer running Linux, OSX, or Windows with them or access to a computer during class.

You do not need any prior programming experience to attend but any experience is helpful.

Class is limited to 14 students

Exam / Credit Points

There will be daily assignments to support the material covered in class. These will be short pieces of your own creation related to topics discussed in class

Regular attendance and completion of 4 short pieces: 2 CP

Regular attendance and completion of 4 short pieces and a final and more substantial work utilizing at least two techniques learned in class (due Nov 1, 2018): 4 CP

Module

2CP / 4 CP: Practice, Free Focus

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Schedule

(There will be short assignments daily due at the next session)

Mon	May 7	What is an algorithm?	Text scores, fluxus, Sol LeWitt, Cardew Data Translation Database (sequences, etc.) Hanne Darboven Randomness
Tue	May 8	Abstraction and Code	
Wed	May 9	Analysis of Data and Interaction	
Fri	May 11	Focused Topics and Discussion of Projects:	Network Music L-Systems Emergence Genetic Algorithms Cellular Automata Markov Chains

Supporting Media

Required

SuperCollider 3.9 (or latest version for your OS): <http://supercollider.github.io/download>

SuperCollider 3 Extensions: <https://github.com/supercollider/sc3-plugins>

Ruviaro, Bruno. *A Gentle Introduction to SuperCollider*. 20 Nov. 2015,
ccrma.stanford.edu/~ruviaro/texts/A_Gentle_Introduction_To_SuperCollider.pdf

Reference

Nierhaus, Gerhard. *Algorithmic Composition Paradigms of Automated Music Generation*. Springer Vienna, 2009.