

## HUMA 2107 – Introduction to Electronic Music

### Course Syllabus

HKUST Spring 2022, Feb 8 – May 10

Instructor:	Dr. Timothy PAGE
Email:	hmtpage@ust.hk
Office hours:	By appointment: Tue 13:00-13:30, and 16:00-17:30 (or other times by appointment)
Office:	SHAW 204
Instructional Assistant:	Galison LAU: <a href="mailto:galisonlau@ust.hk">galisonlau@ust.hk</a>
Lectures: CYT G005	L1 Tue 11:00-12:50, L2 Tue 09:00 -10:50
Tutorials: CYT G005	T1A Thu 12:00-12:50, T2A Tue 15:00-15:50
	T1B Wed 15:00-15:50, T2B Wed 14:00-14:50
	T1C Tue 13:30-14:20, T2C Mon 13:30-14:20

### Course description

This course will develop students' appreciation of various types of electronic music via an open and creative environment for its composition. We will explore the nature of sound and approaches to its organization, listening deeply to music and the world around us. We will cover practice and theory in digital audio signal processing. Since we will be working with “concrete sound,” students need not have any prior experience in music notation or composition to participate in the course. We will also cover some general topics from music theory to aid in our understanding and creativity.

The primary software platform we will be using is digital audio workstation software known as REAPER. We will also have the chance to learn some studio techniques in HUMA’s new Electronic Music Studio in Shaw Auditorium, including recording and modular analog synthesis.

There is no final examination for this course. In lieu of a final, students will present their final projects to the class in a concert-like setting, and there will be a quiz at the end of the term covering theoretical and historical topics. A preliminary composition exercise is also due in lieu of a midterm examination, and will be presented in class.

### Intended learning outcomes

On successful completion of the course, you will have learned to

- Appreciate and describe the features of various types of electronic music
- Show competence in various technologies for digitally processing audio
- Creatively organize sound into coherent works of music as a means of self-expression
- Demonstrate a broad understanding of electronic music’s historical development
- Demonstrate an understanding of key issues in music aesthetics

## Prerequisites

There are no course prerequisites for this class. While you do not need to have formal musical training to sign up for the course, you will find musical background to be an advantage.

## Course Materials:

You will need to obtain your own copy of Reaper, a powerful but low-cost digital audio workstation software. You will receive instructions on how to do this in lecture.

It is highly recommended that you have your own laptop, which you occasionally be asked to bring for lecture and tutorials. Also, you must have a fast, reliable USB flash drive, because you will be transferring big files when you come to tutorials to share your work.

## Course requirements

1. Much of what you learn will be assimilated via discussion and feedback on your work from me and your peers, in both lecture and tutorial. Therefore, attendance and participation are absolutely crucial in both lecture and tutorial. You must participate in discussions, as well as the presentation of your exercises and projects. For most of the course, you will be bringing your work to tutorials on a USB flash drive for evaluation and discussion, and for this reason your attendance in tutorials is all the more essential. **Failure to attend tutorials will lead to you not receiving credit for your homework. Do not take this course if you cannot commit to attending the tutorials.**

2. Midterm project: composition of a work of musique concrète, with a duration of 2-3 minutes. In certain instances this midterm project can also be developed into your final project (this will be decided on a case-by-case basis).

3. Final project: A fixed media work, in any style, of 3-4 minutes. We will explore the assignment in detail as the course progresses. **Attendance at final concert in CYT-LTL on Tuesday, May 10, at 6:00PM (L1) or 8:00PM (L2) is mandatory. Do not take the course if you can't attend this concert.**

4. A) Mandatory attendance of **three events of the Cosmopolis Festival** scheduled for this spring. Two of these must be concerts - including one which will feature live electroacoustic music on **April 7 at 19:00 in Shaw Auditorium.**

B) Following the electroacoustic event, you will write a two page, double-spaced report on the concert. More detailed guidelines for the writing assignment will be provided as the

event approaches. Depending on the situation of the pandemic, these two requirements will possibly be replaced by one in which you listen to a full length album or live concert recording, and write your report on a piece or part of a piece performed.

### **Grading**

Attendance and participation	15%
Portfolio of exercises/homework	15%
Concert/Recording report	10%
End-of-semester quiz	10%
Midterm project	20%
Final project	30%

### **TENTATIVE LECTURE TOPICS:**

#### **Session 1: The World as an Instrument**

- the soundscape, deep listening
- sound objects
- field recordings
- musique concrète

#### **Session 2: Timbre, Orchestration, Counterpoint, Reaper DAW**

- tone color, timbre
- vertical and horizontal layers in music
- Introduction to REAPER, editing basics

#### **Sessions 3-6: Manipulating recorded sound**

- Digital Audio Plugins
- Reverbs, Delays
- Spatialization
- Filters and Equalization
- Compression

#### **Session 7: Presentation of first student works**

#### **Session 8: Rhythm**

- Meter, pulse, tempo, beat hierarchies
- looping, working with the grid in REAPER

#### **Session 9: Convolution and Granular Synthesis, Analog Synthesis I**

- Fourier decomposition
- phase
- frequency domain vs time domain
- Analog synthesis: Oscillators, control voltages, modulation, intro to VCV RACK

**Session 10: Manipulating recorded sound, Analog Synthesis II**

- Time Stretching
- Pitch Shifting
- Distortion
- Bit Crushing
- Analog synthesis: Triggers, envelopes

**Session 11: More studio techniques**

- Recording Sounds in the Studio
- Types of Microphones
- Signal level types.
- Digital audio interface
- 5.1 Surround

**Session 12: Individual lessons, project development**

**Session 13: Presentation of final project,**

**Tuesday May 10, 18:00-19:50 (L1) 8:00PM-9:50 (L2)**