HUMA 2107 – Introduction to Electronic Music
Course Syllabus
HKUST Summer 2022, June 20 – July 16

Instructor:	Dr. Timothy PAGE
Email:	hmtpage@ust.hk
Office hours:	By appointment: MWF 12:50-13:30 (or other times by appointment)
Office:	SHAW 204
Instructional Assistants:	Galison LAU: galisonlau@ust.hk, Rod YU : roderickyu@ust.hk
Lectures: SHAW 105 (EMS)	L1 Tue 11:00-12:50
Tutorials: SHAW 105 (EMS)	T1A Thu 14:00-14:50
	T2 Wed 15:00-15:50
	T3 Wed 16:00-16:50

Course description

This intensive 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 should 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 presenting your work in tutorials 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 all the tutorials.** Absences will only be excused if you provide medical documentation.

2. 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 on Monday, July 18, at 7:00PM is mandatory (location TBD). Do not take the course if you can't attend this concert.**

3. Written assignment: 2-page written review and analysis of a piece of electronic music, chosen from an album/playlist to be assigned.

Grading

Attendance and participation	15%
Portfolio of exercises/homework	15%

Written assignment	10%
End-of-semester quiz	10%
Final project	50%

TENTATIVE LECTURE TOPICS:

Session 1: The World as an Instrument
- the soundscape, deep listening
- sound objects
- field recordings
- musique concrete

Session 2: Studio techniques, Synthesis I
- Recording Sounds in the Studio
- Types of Microphones
- Signal level types.
- Digital audio interface
- Modular synthesis: Oscillators, control voltages, modulation, intro to VCV RACK

Session 3: Timbre, Orchestration, Counterpoint, Reaper DAW
- tone color, timbre
- vertical and horizontal layers in music
- Introduction to REAPER, editing basics

Sessions 4-6: Manipulating recorded sound
- Digital Audio Plugins
- Reverbs, Delays
- Spatialization
- Filters and Equalization
- Compression

Session 7: Rhythm
- Meter, pulse, tempo, beat hierarchies
- looping, working with the grid in REAPER

Session 8: MIDI and VSTi
- Hip hop history
- MIDI
- Virtual instruments.

Session 9: Synthesis II
- Fourier decomposition
- Frequency domain vs time domain
- Analog synthesis: Triggers, envelopes

Session 9: Manipulating recorded sound cont.
- ◦ Time Stretching
- ◦ Pitch Shifting
- ◦ Distortion
- ◦ Bit Crushing

Session 10: Individual lessons, project development

Session 11: Presentation of final project,
Monday July 18, 19:00-20:50 (Location TBD)