University of Waterloo Department of Music Conrad Grebel University College

Music 275 – Music & Technology, Fall, 2022

We acknowledge that in Kitchener, Waterloo, Cambridge and Brantford we are on the traditional territory of the Neutral, Anishnaabe, and Haudenosaunee peoples.

Instructor: Cam McKittrick

Email: cmckittr@uwaterloo.ca

Video conferencing is also welcome by appointment.

Class meetings: Tuesdays 4:20-6:50pm in Grebel 1208.

Course Description

This course will be a hands-on introduction to the core concepts of music technology. You will learn about audio editing, digital signal processing, and MIDI, and will integrate these skills in the creation of original pieces of music. Repertoire review will provide historical and aesthetic context for your own work.

Method

Music 275 will take place this fall with in-person meetings and asynchronously:

- Learning materials are provided for each week on our course site that you can access at any time. The provided materials are for personal use only.
- Written, video, and audio documents are provided on a week-by-week basis. It will be easiest to use "quicktime" to view recorded video instruction so Windows users may have to go here: https://support.apple.com/downloads/quicktime

Materials

- Access to a personal computer on which you are able to install software.
- Reasonably good headphones
- A license for <u>Ableton Live Intro</u> (available at ableton.com) If you have not used the software before, there is a significant trial period for the advanced version.

Topics to be covered

Starters:

Listening

"What is sound?" – acoustic and psychoacoustic topics

"What is digital sound?" - important things to know about digital sound

Context:

Creating music on the computer: How did we get here?

The repertoire and aesthetic of electronic music

Recording:

Mixers, microphones, and how to use them Getting sound into the computer

Audio Editing:

Digital Audio Applications overview and practical use

Reading a wave-form

Cutting, pasting, and moving things around

Cross-fading

Managing files

Digital Signal Processing:

Effects – basic categories: what they are, and what they do

'Transparent' and 'Artistic' use of effects

Envelope automation

Signal path

MIDI:

What it is, and how it works

Recording a keyboard performance onto the computer & playing it back

Editing MIDI data: quantization, cutting, pasting, etc...

Automation in MIDI

Software synthesizers and the history of sound synthesis

Sequencing:

Getting audio and MIDI coordinated

Thinking in tempo: loops, rhythm, et al...

Music notation software (introduction only)

Mixing & Mastering:

Using volume and EQ to mix a session

Getting a piece ready for different media

Looking forward:

Alternative performance interfaces for digital music

Course Evaluation

Evaluation Item	Weighting	Description
Lab Assignments	6 at 8% each (best 5 count)	Demonstrate basic skills in digital audio (listening, recording, analyzing, editing, processing, mixing, etc.) and knowledge of common software examples.
Working together	12%	Collaborative music production assignment
Repertoire Review	5%	A short, written review of a piece from the course listening list.
Midterm Project	15%	A project of your own design, crafted to demonstrate mastery of applicable course topics married to your individual pursuits.
Final Project	20%	A project of your own design, crafted to demonstrate mastery of applicable course topics married to your individual pursuits.

Details concerning the assignments and projects will be available from the WATERLOO LEARN course site in written form.

Schedule (assignment dates)

Most of our activity in the course relies on cumulative knowledge. Mastery of each stage applies to the next and there are benefits to pre-studying materials posted in the week(s) ahead.

Lab Assignment 1: Due Wednesday, September 21st at 11:30pm to the dropbox Lab Assignment 2: Due Wednesday, Sept 28th at 11:30pm to the dropbox

Lab Assignment 3: Due Wednesday, October 5th at 11:30pm to the dropbox

Midterm Project: Due Wednesday, October 19th at 11:30pm to the dropbox

Lab Assignment 4: Due Wednesday, October 26th at 11:30pm to the dropbox Lab Assignment 5: Due Wednesday, November 2nd at 11:30pm to the dropbox Lab Assignment 6: Due Wednesday, November 9th at 11:30pm to the dropbox

Collaborative Project: Due Wednesday, November 23rd at 11:30pm to the dropbox

Repertoire Review: Due Wednesday, November 23rd at 11:30pm to the dropbox

Final Project: Due Wednesday, December 7th at 11:30pm to the dropbox

Policies

Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo are expected to promote honesty, trust, fairness, respect and responsibility.

Discipline: A student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about "rules" for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to Policy 71 - Student Discipline, http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70 - *Student Petitions and Grievances*, Section 4, http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm

Appeals: A student may appeal the finding and/or penalty in a decision made under Policy 70 - Student Petitions and Grievances (other than regarding a petition) or Policy 71 - Student Discipline if a ground for an appeal can be established. Read Policy 72 - Student Appeals, http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm Academic Integrity website (Arts): http://arts.uwaterloo.ca/arts/ugrad/academic_responsibility.html Academic Integrity Office (UW): http://uwaterloo.ca/academicintegrity/

Accommodation for Students with Disabilities: Note for students with disabilities: The Office for Persons with Disabilities (OPD), located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the OPD at the beginning of each academic term.

Turnitin.com: Text matching software (Turnitin®) may be used to screen assignments in this course. Turnitin® is used to verify that all materials and sources in assignments are documented. Students' submissions are stored on a U.S. server, therefore students must be given an alternative (e.g., scaffolded assignment or annotated bibliography), if they are concerned about their privacy and/or security. Students will be given due notice, in the first week of the term and/or at the time assignment details are provided, about arrangements and alternatives for the use of Turnitin in this course.

It is the responsibility of the student to notify the instructor if they, in the first week of term or at the time assignment details are provided, wish to submit alternate assignment.