University of Waterloo Department of Music, Conrad Grebel University College

Music 275 – Music & Technology, Fall 2017

Instructor: Cam McKittrick (email: cmckittr@uwaterloo.ca or c.mckittrick@icloud.com)

Class time: Tuesdays, 4:00-6:50
Lab times: By appointment at the end of each class meeting
Location: Conrad Grebel College, Room 1302
Office hours: By appointment and Tuesdays during lab times

Prerequisite: Music 100 or the consent of the instructor.

Course Description
This course is a hands-on introduction to the core concepts of music production using current technology. Students will learn about recording, audio editing, digital signal processing, and MIDI, and will integrate these skills in the creation of original pieces of music. Class and lab instruction will be complemented by individual work in the Conrad Grebel Digital Music Lab. In-class and out-of-class repertoire review will provide historical and aesthetic context for your own work.

Materials
There is an $80.00 lab fee and a refundable $25.00 deposit for a key to the studio – the paperwork for obtaining a key will be handed out on the first day of class.

Buy a portable storage device or tie a dropbox.com account to your uwaterloo email address; USB flash-memory sticks. Google Drive is ok, but you’ll need to give me your gmail address to share files as needed. You can use a phone or other device for transportable storage as long as you ensure connectivity with lab computers and your own computer. Regardless of your choice, have at least 8GB available for this course.

Recommended Materials:
2. Ableton Live Intro (or Studio or Suite) through ableton.com
   - Live Intro is available for $99 and will allow you to complete many of your assignments but also offer a more fruitful understanding of in-class demonstrations
   - Cracked/illegal copies of the software cannot be used
**Materials Note:** All lab assignments can be completed in the Conrad Grebel College Digital Music Lab: Optionally, if you own the software used in the Lab, you may complete some assignments using your personal computer at your own cost and maintenance. To do so you must ensure your assignment opens and runs successfully in the Lab before submission. *Regardless, all students pay the required lab fee.*

**Important note regarding Lab Hours:** The Lab closes when the building closes (10pm). Please make sure you leave before that time.

**Objectives**
At completion of this course you will:

- Understand the rudiments of microphone technique, audio monitoring, signal chain management, and digital audio file management
- Feel comfortable using digital audio workstations
- Understand the rudiments of the MIDI protocol
- Possess introductory knowledge of electronic and computer music repertoire and techniques

**Topics to be covered**

**Basics:**
Listening
  “What is sound?” – basic physical and psychoacoustic concepts
  “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 aesthetics 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, breath-stealing, in-fill, and other techniques
  Managing files

**Digital Signal Processing:**
  Effects – basic categories: what they are, and what they do
  ‘Transparent’ and ‘Artistic’ use of effects
  Effects automation
  Effects-related 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/samplers

**Sequencing:**
- Getting audio and MIDI coordinated
- Thinking and creating in tempo: loops, rhythm, etc...

**Music notation software (introduction)**

**Mixing & Mastering:**
- Using volume, EQ, and effects to mix a session at an introductory level
- Getting audio media ready for its intended use

**Course Evaluation**

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<tr>
<th>Evaluation Item</th>
<th>%</th>
<th>Description</th>
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<tbody>
<tr>
<td>Assignments</td>
<td>70%</td>
<td>Demonstrate basic skills in digital audio (listening, recording, analyzing, editing, processing, mixing, etc.) and knowledge of common software examples. Assignment 7 is mandatory.</td>
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<tr>
<td>Final Project</td>
<td>30%</td>
<td>A project of your own design, crafted to demonstrate mastery of applicable course topics</td>
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A course listening list will partially be drawn from volumes 1-4 of “The Anthology of Noise and Electronic Music,” available on reserve in the Conrad Grebel Library, and other recordings.

Details concerning the assignments, quizzes, and projects will be covered in class and are available from the WATERLOO LEARN course site in written form.

**Attendance & Late Work**
Attendance for this class is very important, due to the amount of material to cover and the fact that we meet only once a week. Missing a class will leave you significantly behind in relation to everyone else, and may also hinder your ability to complete the term assignments. While there is no attendance mark in the grading scheme, late assignments will receive a 10% per day deduction at the discretion of the instructor. Also, requests for out-of-class help will be less enthusiastically received if they follow on the heels of unexplained absences from class.

**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.
Arts: [Academic Integrity website](#) University of Waterloo: [Academic Integrity Office](#)
**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.

**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.

**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.