

**Western University
Don Wright Faculty of Music**

MU9533b/9633b Electroacoustic Composition and Performance, 2024

Course Description

A graduate level course in electroacoustic musical composition and performance. Students will compose music employing techniques of synthesis (such as analogue, modular, simulated modular, granular...), sampling and data manipulation. Live performance/improvisation and real-time digital sound processing (DSP) will be integral elements in their compositional work.

Lecture Hours:

Tutorials: Rashaan Allwood, the CEARP GTA, will be giving weekly tutorials,
Time TBA

In-person meetings: CEARP Studios

Online meetings (if any): via Zoom

Private Lessons – In March, as students are working on their final projects, some class time will be replaced by private or semi-private lessons. Details, TBA.

Prerequisites

This course is restricted to graduate students in Composition. However, other graduate students may take the course with permission of the instructor and with permission of their department.

“Please note that prerequisites are no longer automatically checked prior to course registration. It is the responsibility of each student to ensure that he or she has the specified prerequisites. Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you will be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.”

Instructor Information

Instructor:

Dr. Paul Frehner
Rm. TC 339
Phone: 661-2111 ext. 85335
Email: pfrehner@uwo.ca
Office hours: by appointment

Studio GSA:

Rashaan Allwood, rallwood@uwo.ca

Learning Outcomes

Upon completion of the course students can expect to have:

- Broadened their knowledge of various types of synthesis such as subtractive, additive, modular, FM, granular
- Developed the knowledge and skill required to patch in Max/MSP for the purpose of composing electroacoustic works.
- Developed a basic level of competency in using the studio's Eurorack synth for composing generative or improvisational works
- Gained a broader knowledge of current composers and trends in various electroacoustic genres
- Achieved a level of technical fluency in utilizing the audio hardware available in CEARP Studios C and/or B.
- Gained hands-on experience in all aspects of staging a concert of electroacoustic music.

Course Activities and Timetable of Assigned Work

This primary focus of this course will be directed toward the creation and performance of electroacoustic/electronic musical works based on principles and techniques learned in class.

In the first half of the semester students will work on a Eurorack Recording Journal, documenting their explorations on the studio's modular synthesizer. There will also be several assignments in Max/MSP. Following this period students will work on their Composition project and an Electroacoustic Radio Show assignment.

It is understood that students are expected to engage in technical research for their creative work. The possibilities for this research are wide ranging and the exact nature of the research will be narrowed down through discussion during class time. Students are expected to be self-directed and exploratory in their technical research with the goal that they will have stretched their limits through this technical and creative process.

There will be assigned readings and listening.

Course activities may consist of any of the following:

- Lectures and demonstrations on using the audio gear in CEARP Studio B or C
- Lectures and demonstrations on patching and programming in Max/MSP
- Lectures and demonstrations on patching on Florian, the studios Eurorack Modular Synthesizer, or in VCV Rack
- Lectures on topics, terminology and concepts related to electronic music
- Tutorials with the GSA on any of the above topics
- Presentations and discussions of student creative work in a group composition lesson setting.
- Live performance and improvisation of electroacoustic sketches and compositions

- Discussion of any assigned readings or listenings
- listening to, analyzing and discussing recent electro-acoustic compositions by established composers as well as other types of audio artwork such as installations, sonic sculptures, etc...
- demonstrations by both the instructor and students on the use of various audio hardware devices and software applications
- Occasional private composition lessons. These would replace regular class time.

Studio Time

Each student will be able to reserve up to 5 hours of studio time per week through the online CEARP calendar on the OWL site. Students may have extra studio time on a first-come, first-serve basis, provided that the studio was previously unreserved. Studio time may be reserved no more than 1 week ahead of time.

Eurorack Weekly Journal and Other Assignments

Eurorack Sonic Exploration and Recording Journal: 1 recording/week for 3 weeks for the period spanning Jan. 15 – Feb. 4
Details TBA

Other Assignments: due Feb. 14, Mar. 28, Mar. 6
Details TBA

Composition Project – due March 25

The final project will be a composition scored for 1+ performer(s) and electronics with duration of between 6-10 minutes. Exact details regarding this project will be established through in-class discussion. This composition will be performed in the year-end concert on April 4. An in-class run-through will take place in class on either March 27 or April 1.

Year-End Concert – Tuesday April 2, 6:00 pm,

The final concert is scheduled to take place on Tuesday, April 2, at 6:00 pm in vKH. Students will perform/present their compositions during this concert. Students will be responsible for promoting this event. In addition, each student is expected to assist in the setup, sound check, dress rehearsal and striking of the stage after the concert. These activities will take up the entire day from 8:30 am until approximately 10 pm.

Electroacoustic Radio Show Assignment – Due April 22

Details - TBA

Evaluation

<u>Final Composition Project: *, **</u>	40%
<u>Listening/Radio Show Assignment:</u>	20%
<u>Eurorack Weekly Journal</u>	15%
<u>Other Assignments</u>	15%
<u>Participation:</u> in-class discussion and completing any assigned readings and listenings	10%

*N.B. Students will prepare their Final Composition Project for a premiere performance that will take place in the year-end concert. This performance/presentation will comprise part of the grade for the Final Composition Project.

**Note that along with both composition/creative projects students will also submit a bound performance or listening score that contains technical details regarding the signal processing and data manipulation employed.

The following elements will be considered when grading the assignments, collaborative improvisation and the final composition project.

Effective technical use of the audio gear/audio software employed

Demonstrated understanding and implementation of techniques related to synthesis, DSP, various approaches to synthesis, patching in Max/MSP, MIDI, mixing, sequencing, sampling etc...

The overall success of the completed works with regard to compositional considerations such as creativity and originality, form, dynamic shape, sonority etc...

Required Course Materials

Hardware

Personal computer
Headphones

Software

Max/MSP – a personal license of the software. A student or monthly license can be purchased from Cycling74's online shop.

<https://cycling74.com/shop>

VCV Rack 2 – you are required to open a personal account for this open-source virtual modular synthesizer and then download the app.

There is no fee for downloading the free version of this application onto your computer. Once an account is set up you can then proceed to download modules from the VCV Rack Library. Most modules are free, however, there are some commercial modules that must be paid for. For this course you will not be required to purchase any commercial modules.

<https://vcvrack.com/Rack>

N.B. There is a premium version of Rack 2 which has a cost of \$149 USD. For our purposes the free version is suitable enough.

Suggested Course Materials

Hardware

An audio interface
Microphone
MIDI keyboard
MIDI controllers

Software

A digital audio workstation (DAW) such as Pro Tools, Logic, Cubase etc...
A variety of VST plugins could be useful

Reference Texts

User manuals for the various modules found on Florian, the CEARP Studio's Eurorack modular synthesizer

Max/MSP/Jitter Tutorials, Help files and Reference: integrated into the application

VCV Rack user manual – online

Other manuals for 3rd party VCV modules

Specific texts or articles as assigned

Samuel Pellman, *An introduction to the Creation of Electroacoustic Music*, Wadsworth Publishing Company ISBN 0-534-21450-9.

Scott Wilson, David Cottle, Nick Collins, *The SuperCollider book*, Cambridge Mass.: MIT Press, c2011.

David Miles Huber, Miles E. Runstein, *Modern Recording Techniques*, 4th ed., Boston, Focal Press, c1997.

Other hardware and software user manuals are available on the Mac Pro in the CEARP studio. They are mostly all available for download from their respective manufacturer's website. Hardcopies of some of these manuals are kept in the studio.

Recording Media and Storage

Students are expected to make frequent backup copies of any work stored on the studio computer or on their personal computer. The University and the instructor will not be responsible for loss of data and student work.

Logbook

The studio has a logbook. Students are expected to sign the logbook whenever using the studio. If there is a software or hardware malfunction they should describe the issue in general terms in the logbook and then notify the studio's Graduate Assistant.

Electronic Devices

The use of mobile phones or other electronic communications device in class is prohibited. Please turn off your communications devices before entering the classroom.

Notes for Graduate Students Enrolled in the Course

Grading scale: A= 80-100%, B= 70-79%, C= 60-69%, F= 0-59%

Statement on Academic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic offence, as found at https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_grad.pdf

Statement on Health and Wellness

Students who are in emotional or mental distress should refer to [Health and Wellness](#) for a complete list of options about how to obtain help.

Statement on Accommodation for Medical Illness (adapted from the Senate policy on Academic Consideration for Student Absences–Undergraduates) at https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf

The Graduate Program in Music recognizes that a student's ability to fulfill academic responsibilities may, on occasion, be impaired by illness or injury. To ensure fairness and consistency for all students, academic accommodation for work representing 10% or more of the student's course grade shall be granted only in cases where there is documentation indicating that the student could not reasonably be expected to meet the academic responsibilities.

Documentation shall be submitted, as soon as possible, to the office of the Associate Dean (Graduate Studies), not to the course instructor.

Students with special learning needs or other circumstances are asked to inform the instructor as soon as possible so that necessary accommodations can be considered.

Accessible Education Western

Western is committed to achieving barrier-free accessibility for all its members, including graduate students. As part of this commitment, Western provides a variety of services devoted to promoting, advocating, and accommodating persons with disabilities in their respective graduate program. Graduate students with disabilities (for example, chronic illnesses, mental health conditions, mobility impairments) are strongly encouraged to register with Accessible Education Western (AEW), a confidential service designed to support graduate and undergraduate students through their academic program. With the appropriate documentation, the student will work with both AEW and their graduate programs (normally their Graduate Chair and/or Course instructor)

to ensure that appropriate academic accommodations to program requirements are arranged. These accommodations include individual counselling, alternative formatted literature, accessible campus transportation, learning strategy instruction, writing exams and assistive technology instruction.

Statement on Gender-Based and Sexual Violence

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence, either recently or in the past, you will find information about support services for survivors, including emergency contacts at https://www.uwo.ca/health/student_support/survivor_support/get-help.html. To connect with a case manager or set up an appointment, please contact support@uwo.ca or call 519-661-3568.

Important Dates

Second Term

Mon. Jan. 8-Mon. Apr. 8

First day of 2nd term classes
Reading Week
Family Day (Stat Holiday)
Good Friday (Stat Holiday)
Last day of 2nd-term classes

January 8, 2023
Feb. 19-25
Feb. 19
March 29
April 8