Music M158A

Sound and Music Computing with CNMAT Technologies
Syllabus Spring 2020

Location / Time

Wheeler 210
Tues / Thurs 11:00 am- 12:30 pm
Office Hours: 1750 Arch St (CNMAT), Thurs 1:00 - 2:00

Instructor Information

Jon Kulpa
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kulpajj@gmail.com

Computer Lab info:

Login

username: !wmfmusic158a
password: c@1rhythm

Lab availability outside class

Check the Wheeler Lab schedule.

Course website and materials:
https://bcourses.berkeley.edu/courses/1490476/files

Course Description

Music m158A explores the intersection of music and computers using a combination of scientific, technological, and artistic methods. Musical concerns within a computational frame are addressed through the acquisition of basic programming skills for the creation and control of digital sound.

Goals:

Gain proficiency in Max/MSP programming environment. Learn basic concepts and techniques of computer- based music, composition, and performance. Included will be the exposure to the essentials of digital audio signal processing, musical acoustics and psychoacoustics, sound analysis and synthesis, software tools created by the Center for New Music and Audio Technologies (CNMAT), and use of Open Sound Control (OSC) and the language odot.

Begin to make your own art with these tools. Possibly begin to work towards advanced projects using these tools.

Curiosity, open-mindedness, and hard work:

I support any sounds in this course you decide to obsess with and work hard at. I like to teach because I learn from having to distill concepts to their essence and because I can learn from your ideas. That being said, know up front that composers like me do not personally aim at “making sick beats” or teaching principles of pristine audio engineering per se…the UC Department of Music Composition and CNMAT are very interested in experimental sounds you might find “weird” at first. Not because we are out of our minds but because we love invention and the possibility of discovering new forms of beauty and sonic possibility. This course absolutely aims to stretch your mind and introduce you to new ideas about music and sound. Again, I am also very open to your goals, sick beats included. If you show a desire to grow and stretch your mind, that motivates me to do the same. We can both inform what emerging computer music is.

First Day, Downloading and Configuring Max

Because these materials are emerging/evolving, it is highly, highly recommended that you set all this up on your own computer:

Let's get you set up…

1) Go to the Cycling 74' website, purchase a monthly Max subscription for the semester, install, and authorize. (I think $9.99 / month)

2) We will be making an extensive use of UC Berkeley's own set of Max Externals (and one object in the ejies package). Downloaded these Packages at the links below:

CNMAT-Depot

odot

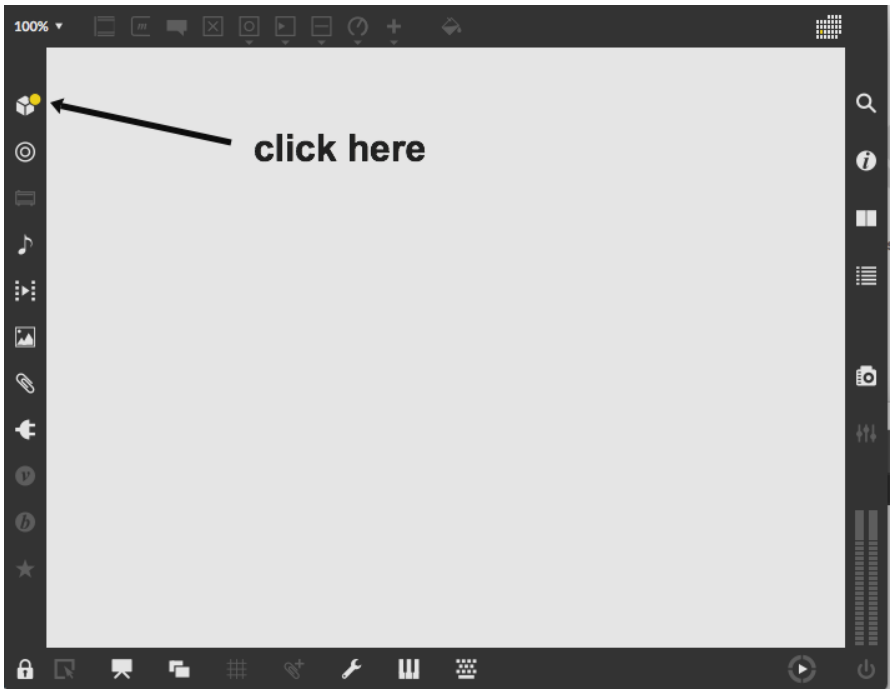
ejies

To install these packages on your personal computer, download and unzip the .zip files, and place the folders in this folder:

`~/Documents/Max 8/Packages` on Mac

`/Users/<myuser>/My Documents/Max 8/Packages` on Windows

3) One more package from CNMAT is the CNMAT-Externals, but we will install them via Max's own "Package Manager". It is located here:



…then, search for "CNMAT Externals", select it, and click Install.

4) Configure two additional Max file paths…for each of the following (both a and b), go to:
Options > File Preferences > click the " + " in lower left corner > select "choose" > select a file path:

a) add a file path for your very own personal Max folder:
place it in /Documents and name it however you want, e.g. /Documents/max_myStuff

b) add a file path for the course materials:
place it in /Documents and name it "m158a"

GO TO bcourses: https://bcourses.berkeley.edu/courses/1490476/files
download the media.zip and unzip it in the m158a folder

Each Class

Bring your own set of headphones.

At the beginning of every class, before starting Max, go to the bcourses site files folder, and download the latest course.zip
https://bcourses.berkeley.edu/courses/1490476/files

*****go to your m158a folder that you created above, and place course.zip in there.**
DELETE your old "course" folder.
Unzip the new course.zip

All the materials of the course are accessed via one max patch:
/course/cnmatPedagogy_index.maxpat

“Schedule”

This is in quotes because ***much like computer music itself, this course is emerging and evolving as we go along.***

	Date			Topic
Week 1	January	Tues	21	syllabus, install everything, Intro to Max
		Thurs	23	Intro to Max
Week 2		Tues	28	Intro to Max Intro to MSP
		Thurs	30	Intro to MSP **Lab 1**
Week 3	February	Tues	4	Intro to MSP Time and Automation (**Lab 1 due)**
		Thurs	6	Time and Automation
Week 4		Tues	11	Time and Automation **Lab 2**
		Thurs	13	Intro to odot
Week 5		Tues	18	Intro to odot (**Lab 2 due)**
		Thurs	20	Additive Synthesis / harmonicity
Week 6		Tues	25	Additive Synthesis / harmonicity
		Thurs	27	Modulation Synthesis **Lab 3**
Week 7	March	Tues	3	Modulation Synthesis
		Thurs	5	Subtractive Synthesis / Filters
Week 8		Tues	10	Subtractive Synthesis / Filters (**Lab 3 due)**
		Thurs	12	Delays
Week 9		Tues	24	~~~~~~Spring break~~~~~~

		Thurs	26	~~~~~~Spring break~~~~~~
Week 10		Tues	31	Polyphony with poly~
	April	Thurs	2	Polyphony with poly~
Week 11		Tues	7	Polyphony with poly~ **Lab 4**
		Thurs	9	Granular Synthesis
Week 12		Tues	14	Granular Synthesis (**Lab 4 due)**
		Thurs	16	Propose Final Project
Week 13		Tues	21	Projects
		Thurs	23	Projects
Week 14		Tues	28	Projects
		Thurs	30	Projects Last Day of Class
Week 15	May	Tues	5	RRR
		Thurs	7	RRR
Week 16		Tues	14	PREZ
		Thurs	16	

Grading Policies

Overview:

Graded assignments have the following weight:

- 20% Attendance + Participation (*students are allowed one class absence without effect on this grade*)
- 40% Lab Assignments (*spread over ~2 lab assignments*)
- 40% Final Project

FINAL PROJECT PATCH and other documentation DUE ON EXAM DAY - TBA.

Labs

You are required to complete the lab assignments, which will be given out and are due on the dates shown above. **Labs are due at 11:59 pm on the due date posted** (and not a minute later) on the class bCourses site.

10 - 9.6 - for work that greatly exceeds homework requirements and is exceptionally creative
9.5 - 9.0 - for work that meets homework requirements, is well-developed, and goes beyond any class- provided models
8.9 - 8.5 - for work that meets the demands of the assignment and displays substantial effort
8.4 - 8.0 - for work for work that falls short of the assignment requirements but displays a good effort
7.9 - below for work displaying a lack of effort and understanding of the materials involved

Final grade distribution:

100% -- 90% A
89% -- 80% B
79% -- 70% C
69% -- 60% D
59% -- 0% F

Pluses are awarded for the top three percent and minuses are reserved for the bottom three percent of each grade distribution above, except in the case of A+'s. A's are given for grades from 94-100% and A+s are reserved only for exceptionally successful work, as determined at the professor's discretion.

Other Policies

Attendance

Attendance is required during every class meeting time.

Late Work

If you are missing class due to a university function, please inform your instructor as soon as possible and provide the paperwork as early as you can so as to expedite our scheduling of individual appointments and make-up work.

Our policy expects regular attendance:

Late labs are penalized by a full letter grade (10% of assignment's total value) for each day they are late.

Final projects replace the final exam and therefore may not be late.

Academic Integrity

Copying all or part of another person's work, or using reference material not specifically allowed, are forms of cheating and will not be tolerated. Specifically: Any work submitted should be your own individual thoughts, and should not have been submitted for credit in another course unless you have prior written permission to re-use it in this course from this instructor. Do not collaborate or work with other students on assignments or projects unless you have been given permission or instruction to do so. If you are unclear about expectations, ask your instructor.

Accommodation

If you have been issued a letter of accommodation from the Disabled Students Program (DSP), please see me as soon as possible to work out the necessary arrangements. If you need an accommodation and have not yet seen a Disability Specialist at the DSP, please do so as soon as possible. If you would need any assistance in the event of an emergency evacuation of the building, the DSP recommends that you make a plan for this in advance. (Contact the DSP access specialist at 510-643-6456.)

Discussion

We welcome all pertinent discussion and are counting on your participation in the course. We ask that your rhetoric deals with statements and ideas rather than with speakers and persons. When working with your peers in class, let's emphasize constructive dialogue and avoid language that could be construed as a verbal attack.

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The Department of Music is committed to upholding copyright law. As a student enrolled in this music class, you may be provided with access to copyrighted music which is directly related to the content of this course. It is our expectation that you will utilize these digital recordings during the course of the semester that you are enrolled in this class, and will delete these recordings after the close of the course. The purpose and character under which these recordings are being provided to you is for nonprofit educational purposes only.

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