Music M158A (sec 001)
Sound and Music Computing with CNMAT Technologies
Syllabus 2020 Fall

Location / Time

Zoom ID: **668 409 0388**   **<—— SAVE IT!**
Tues / Thurs 12:30 PM - 2:00 PM, PST
We are a musical **community. Cameras on!**

Office Hours: directly after class on _____

Instructor Information

Jon Kulpa   (call me Jon…please do not put an H in Jon, even when you pronounce it!)
kulpajj@berkeley.edu
kulpajj@gmail.com

Course website and materials:

https://bcourses.berkeley.edu/courses/1498269/files
https://berkeley.box.com/s/2apnzcg867wwpya2pepe1245g45ahh8e

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 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 gain an appreciation for and engage with the cyclical process of building and listening to the fruits of your labor (repeat this process until something wonderful emerges).
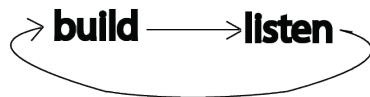
You 1) start with an intuition about what kind of sound you want to make. Then you 2) attempt to build the tool / code / engine that makes that happen (in computer music, we don't only use tools, we build them - as you learn Max, etc, you will gain the skills to do so). Then you 3) listen to what your engine does and form intuitions as a musician with a good set of ears! Does it match your initial intuition? Does it matter? Did you discover something that is **emerging**, but not yet complete? Maybe it needs to be tweaked based on your musical intuitions. Guess what! Then you 4) repeat the entire process….based on your musical engines, you build more (tweak the code/engine), listen more, build more, listen more. Eventually something stunning can emerge from this cyclical process.

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.

Each Class Including First Day

Headphones or high-quality speakers are a must.

Get the Course Materials Each Day.
At the beginning of every class, before starting Max, go to the bcourses site files folder, and download the latest
CNMAT-Pedagogy
Copy this directly into a browser:
https://berkeley.box.com/s/2apnzcg867wwpya2pepe1245g45ahh8e

Go to your personal max_enabled folder, and place CNMAT-Pedagogy.zip inside.
DELETE your old CNMAT-Pedagogy.zip folder. Don't be afraid. Just don't take notes on these.
Unzip the new CNMAT-Pedagogy.zip.

All the materials of the course are accessed via one max patch:

max_enabled >> CNMAT-Pedagogy >> extras >> **CNMAT-Pedagogy_overview.maxpat**

Assignments and Grading Policies

Overview:
Graded assignments have the following weight:
- 20% Zoom Attendance (*students are allowed one class absence without effect on this grade*)
- 40% Lab Assignments (*spread over ~3 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.

Course "Schedule"

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

	Date			**Goings-On**
Week 1	August	Thurs	27	syllabus, Intro to Max
Week 2	September	Tues	1	Intro to Max Intro to MSP
		Thurs	3	Intro to MSP
Week 3		Tues	8	Intro to MSP Time…Basic Automation
		Thurs	10	Time…Basic Automation
Week 4		Tues	15	Time…Basic Automation **Lab 1 (Automation)**
		Thurs	17	Timbre
Week 5		Tues	22	Additive Synthesis (**Lab 1 due)**
		Thurs	24	Additive Synthesis
Week 6		Tues	29	Additive Synthesis / Subtractive Synth (Filters) **Lab 2 (Timbre, additive, subtractive, modulation)**
	October!	Thurs	1	Intro to odot
Week 7		Tues	6	Intro to odot / o.io (controllers)
		Thurs	8	Modulation Synthesis
Week 8		Tues	13	Modulation Synthesis

		Thurs	15	Delays (**Lab 2 due**)
Week 9		Tues	20	Sound Mass / poly~
		Thurs	22	Sound Mass / poly~
Week 10		Tues	27	Time…Tighter Synchrony / Audio-rate step sequencers
		Thurs	29	Time…Tighter Synchrony / Audio-rate step sequencers **Lab 3 (abstractions, create change over time)**
Week 11	November	Tues	3	Time…rhythm (subdivisions / polyrhythms)
		Thurs	5	Granular Synthesis
Week 12		Tues	10	Granular Synthesis (**Lab 3 due**)
		Thurs	12	Generative Composition with odot Code
Week 13		Tues	17	Generative Composition with odot Code
		Thurs	19	Propose Final Project and Work!
Week 14		Tues	24	Projects
		Thurs	26	~~~~~ Happy Thanksgiving! ~~~~~
Week 15	December	Tues	1	Projects
		Thurs	3	Projects
Week 16		Tues	8	RRR
		Thurs	10	RRR

Week 17		?	?	**Final Prez - Zoom Concert TBA**

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.

COPYRIGHT INFORMATION

Federal copyright laws protect all original works of authorship fixed in a tangible medium. When using material that has been written, recorded, or designed by someone else, it is important to make sure that you are not violating copyright law by improperly using someone else's intellectual property.

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.

To read more about UC's Policy and Guidelines on the Reproduction of Copyrighted Materials for Teaching and Research, visit http://copyright.universityofcalifornia.edu/index.html