

Music 158A / 258A

Sound and Music Computing with CNMAT Technologies

Course Syllabus Fall 2016

Instructor Information

Section 001:

- T/Th 09:30am - 11:00am
- Dr. Rama Gottfried
- rama.gottfried@berkeley.edu

Section 002:

- T/Th 11:00am - 12:30pm
- Ilya Rostovtsev
- ilyaforpresident@berkeley.edu

Office Hours: To be announced soon.

Course Description

Music 158A/258A 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. Will learn core concepts and techniques of computer based music composition using the [MaxMSP](#) programming environment in combination with associated software tools and programming approaches created by the Center for New Music and Audio Technologies (CNMAT). Included will be the exposure to the essentials of digital audio signal processing, musical acoustics and psychoacoustics, sound analysis and synthesis, and use of Open Sound Control (OSC).

Materials

We will be using Max/MSP extensively in the course. The computer lab is equipped with licenses of Max available for your use, however it is possible to have a copy of the latest version of Max installed on your laptop and/or home system. We highly recommend purchasing a Max subscription for the semester from Cycling '74, who offer a student price of \$10 a month. For more information see the Cycling '74 [website](#).

We will be making an extensive use of UC Berkeley's own set of Max External. The required Max Packages for the course can be downloaded at the links below:

- [CNMAT-M158](#)
- [CNMAT-Externals](#)
- [odot](#)

To install these packages on your personal computer, download and unzip the .zip files, and place the folders in the `~/Documents/Max 7/Packages` folder on Mac, `/Users/<myuser>/My Documents/Max 7/Packages` on Windows.

Lab: You are required to complete the lab assignments, which will be given out on Thursdays and due by the following Monday at 11:59pm.

Required: USB flash drive with at least 200MB of free space.

Recommended:

- Your own set of headphones.
- MaxMSP on your laptop so you can work on your projects outside of the open lab hours.

Schedule

Weekly schedule is subject to change, please watch bCourses for important announcements.

Date			Topic
Aug.	Th	25	Introduction, course overview, Hello Max (No Lab)
	T	30	I: The Computer and Human Hearing
Sept.	Th	01	Lab 1: Intro to Odot
	T	06	II: Time, envelopes, continuous vs. discrete events
	TH	08	Lab 2
	T	13	(In)Harmonicity, frequency domain, spectrum,...
	TH	15	Lab 3
	T	20	IV: Additive and Resonance Models
	TH	22	Lab 4
	T	27	V: Granular Synthesis
	TH	29	Lab 5
Oct.	T	04	VI: Delays and Filters
	TH	06	Lab 6
	T	11	Midterm Projects in class
	TH	13	Midterm Projects in class
	M	17	Midterm Projects Due at 11:59pm

	T	18	Final Project Proposal Meetings
	TH	20	Final Project Proposal Meetings
	T	25	VII: Probability
	TH	27	Final Project work in class
Nov.	T	01	VIII: Compression and Amplitude Following
	TH	03	Final Project work in class
	T	08	IX: Time Stretching (Don't Forget to Vote!)
	TH	10	Final Project work in class
	T	15	X: OSC over Ethernet
	TH	17	Final Project work in class
	T	22	XII: Special topics TBA to assist with projects
	TH	24	Thanksgiving
	T	29	Finishing Projects
Dec.	TH	01	Finishing Projects

FINAL PROJECT VIDEOS AND DOCUMENTATION DUE ON EXAM DAY

We will announce our availability for the reading week as time draws nearer.

Policies

Grading

Graded assignments have the following weight:

Graded Work	%-Value
<i>Final Project</i>	35%
<i>Midterm Project</i>	25%

<i>Lab Assignments</i>	40%
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The grade distribution is:

<i>Percent</i>	<i>Grade</i>
100% -- 90%	A
89% -- 89%	B
79% -- 70%	C
69% -- 60%	D
59% -- 0%	F

Plusses are awarded for the top three percent and minuses are reserved for the bottom three percent of each grade distribution above. Opportunities for extra-credit will be announced during class hours.

Important Dates

Please see the [UC Berkeley Registrar Student Calendar](#) for important dates regarding adding and dropping classes.

- **October 18th and 20th** are scheduled for individual meetings for everyone to discuss their final projects. Please notify us well in advance if you have conflicts on that day.

Attendance

- We require attendance during every Tuesday and Thursday meeting time.
- We require each and every lab assignment to be completed by **Monday at 11:59pm** and not a minute later.
- Students may only attend the section they are enrolled in.

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:

- labs will be assigned most weeks, and will be announced each Thursday - your work must be submitted via bSpace by the following **MONDAY**, by **11:59pm**.
- 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 (failure to deliver the work by the scheduled final exam date will result in a zero grade for the final, which will most certainly result in a failing grade for the course).

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 or GSI.

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. Verbal attacks towards your peers will not be tolerated.

EMERGENCY PROCEDURES

Tolman Hall Designated Waiting Area: Ground floor on the west wing has a designated waiting area adjacent to the north stairwell. First floor should be exited via the breezeway entrance. Floors two through four, have waiting areas located on the west wing at each of the two stairwells. Floor five has a waiting area in each wing located adjacent to the stairwells.

Take note of emergency procedures posted in the seminar room. If the fire alarm is sounding, exit the building immediately. In the event of an earthquake, duck when possible and hold in place. If you cannot get under furniture, cover your head with your arms, a binder or your laptop. Then exit the building when the shaking stops.

If you are in a wheelchair on an upper floor, proceed to the Designated Waiting Area near the elevator for evacuation. A Disabled Evacuation Chair is located in the first floor near the stairwell.

If you are in a wheelchair and in the basement area, exit through the emergency exit doors on the south and west walls. You may need assistance to get out these doors.

EMERGENCY SERVICES:

UC Police and all emergencies number from campus phones: 911 UC Police and all emergencies number from cell phones: (510) 642-3333 UC Police non-emergency number: (510) 642-6760

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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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