

Music 128 / CS 170

Stanford Laptop Orchestra: Composition, Coding, and Performance

Spring 2019 | Wednesdays, 7:30pm-10:20pm | CCRMA Stage

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Course Description

This course explores composing and coding for, and performance with, laptop orchestra. This is the full classroom/ensemble instantiation of the Stanford Laptop Orchestra (SLOrk), whose members consist of the students currently enrolled in this class. Topics and activities will include composing for laptop orchestras, sound synthesis, programming, instrument design, and live performance. Coursework includes designing laptop-mediated software musical instruments, crafting musical works, and live performance. To engage with these ideas most fully, students will write instruments, compose for these instruments, and perform live in two concerts during the spring quarter.

Musical Works

In addition to design and written assignments, students output in this class will consist of two significant musical works—including instrument design, sound design, programming, and crafting musical presentation—to be first performed two public performances. The first musical work will be a piece of ‘chamber music’ (for a small number of players – between 2-4), and the second musical work will be a piece for the full ensemble, to be performed at the final concert at Bing Concert Hall. Pieces typically average 4-7 minutes. Group work is encouraged—multiple students may work on the same composition.

Dress Code

For concerts, the dress code will be concert black, colored socks optional.

Grading Expectations

Grades will be assigned based on the following:

- attendance and engaged participation
- completion of assignments
- level of thoughtfulness and effort in your work
- helpfulness: setup / teardown / equipment care

Completion of assignments (50%); thoughtfulness and engagement (50%)

The importance of timely attendance and active participation in this class cannot be understated. As a performance ensemble, we are relying on each other to be present to perform and critique each other's work. Therefore, by joining this class, you are committing to attending every class period, as well as the rehearsals/concerts (exceptions include family or health emergency and conflicting final exams).

Missing a concert or dress rehearsal for any reason, other than an excusable emergency or conflict, will result a failing grade for the course. Missing a regular class period or a scheduled rehearsal without an excusable emergency or conflict will lower it one letter grade; being late for a regular class period will lower it by .5 letter grade. Each class you will receive a ✓ if you come prepared to participate, are attentive in class, and demonstrate progress on your work. If you come and do not participate, are inattentive, or are unprepared, you'll receive a ✓-. Two ✓-'s will result in the lowering of a full letter grade. ✓+'s may be given out on occasion, and may result in the raising of your final grade.

Course Policies

1. *Late & missed assignments.* No late work will be accepted under any circumstances (except by prior consent of the instructors, or in case of a health or family emergency). No incompletes will be given except under extraordinary circumstances.
2. *Preparation.* Each assignment has specific, mandatory submission instructions (file name, type, etc.), and must be turned in to the SLOrk subversion repository / "mothership". Materials should be prepared no later than the assigned date (i.e., before class).
3. *No-screens policy.* Except for laptops as instruments, this is a laptop and device-free classroom, so please bring a notebook and pen to take notes. Enjoy being fully present to engage in discussion, rehearsal, and to hear one another, the lecturers, and the sounds we'll encounter together. Exceptions are only made with prior consent of the instructor.

Ways of Thinking / Ways of Doing Breadth Requirement

This course satisfies the following WAYS requirement:

- *Creative Expressive (CE)*

Readings

We will be engaged in topics such as the embodiment of sound in technology-mediated performance, meaningful instrument interaction between players, and indeed, the point of a laptop orchestra. This ranges from the philosophy of aesthetic design to the technical nuts and bolts of hardware and software.

As such, we've amalgamated a short reading list. The readings will be made available on Coursework the week they are assigned. Although we may not necessarily be discussing them directly in class, ideas will be drawn from them to frame activities and discussions in class. They will provide additional perspective for the course and thinking broadly about music-making.

Chuck

- Wang, G., P. R. Cook, and S. Salazar. "ChuckK: A Strongly-timed Computer Music Language." *Computer Music Journal*. 32(4):10-29. (2015)

Laptop Orchestra

- Trueman, D. "Why a laptop orchestra?" *Organised Sound* 12(2):171-179 (2007).
- Fiebrink, R., Wang, G., and Cook, P.R. "Don't Forget the Laptop: Using Native Input Capabilities for Expressive Musical Control". *In Proceedings of New Interfaces for Musical Expression*. 2007.
- Smallwood, S., Trueman, S., Cook, P. R., and Wang, G. "Composing for laptop orchestra." *Computer Music Journal*. 32(1), 9-25 (2008).

Design

- Cook, P. R. "Principles for Designing Computer Music Controllers." *ACM SIGCHI, New Interfaces for Musical Expression (NIME) Workshop*, 2001.
- Wessel, D. and Wright, M. "Problems and prospects for intimate musical control of computers." *Computer Music Journal* 26.3:11-22. (2002)
- Wang, G. *Artful Design: Technology in Search of the Sublime*. Stanford University Press. (2018)

Stanford Laptop Orchestra | Weekly Schedule (subject to change)

Week 1: Introduction (April 3rd)

In-class: syllabus discussion; introduction to the ideas of laptop orchestra, how to set up laptop orchestra gear; playing first piece from laptop orchestra repertoire

Homework: Small Sound Sketch (design instrument + musical statement for one station)

Week 2: (April 10th)

In-class: Non-specific Gamelan; Small Sound Sketch presentation and critique; each person to give a mini-performance of 1-2 minutes; Form groups for Milestone #1.

Homework: SLOrkastic Milestone #1

Reading: *Artful Design*, Chapter 4; 500-word response due Friday (4/19)

Week 3: (April 17th)

In-class: SLOrkastic milestone #1: initial work in-progress of piece; 3 minute performance. presentation on physical interaction design.

Homework: SLOrkastic Milestone #2

Reading: *Artful Design*, Chapter 5; 500-word response due Friday (4/26)

Week 4: (April 24th)

In-class: SLOrkastic Milestone #2: complete composition/performance; SLOrk archeology project (in-class presentation) due

Homework: Milestone #3 (polish your piece – the concert is next week!)

Week 5: (May 1st, May 2nd)

May 1st: SLOrkastic milestone #3: polished piece; rehearsal for the performance

May 2nd: Tech run-through during the day (by appt); 5:30pm call (dinner provided) for 7:30pm SLOrkastic Chamber Music Concert. Invite your friends!

Homework: Proposal / sketch for final musical work

Reading: *Fiebrink et.al. 2007*; 250-word response due Sunday (5/5)

Reading: *Smallwood et.al. 2008*; 250-word response due Sunday (5/5)

Week 6: (May 8th)

In-class: proposal & sketch for final composition/performance; strategies and tools; networking.

Homework: Final Project Milestone #1

Week 7: (May 15th)

In-class: Final Milestone #1: initial full ensemble rehearsal for each piece in-progress

Homework: Final Project Milestone #2

Week 8: (May 22nd)

In-class: Final Project Milestone #2: full ensemble rehearsal for complete piece in-progress, with score presentation as you see fit

Homework: Final Project Milestone #3

Week 9: (May 29th)

In-class: Final Milestone #3: full ensemble rehearsal for complete piece in-progress, with score presentation as you see fit.

Homework: Final Project Milestone #4: Polish

Reading: *Artful Design*, Chapter 8; 500-word response due Sunday (6/2)

Week 10: (June 5th)

In-class: Final Project Milestone #4; last workshop and rehearsal of pieces for the Bing concert. The pieces should be finished by this date; this rehearsal will be focused on ensemble coordination and performance.

Final Performance (June 6th, 7th, 8th)

June 6th: 2pm-10pm, load-in, setup, and rehearsal for final concert

June 7th: 2pm-10pm Dress rehearsal # 1 for final concert

June 9th: 1pm-6:00pm Dress rehearsal #2 for final concert

6:45pm: Pre-concert talk by Ge

7:30pm: SLOrk @ Bing 2019 (Spring Concert)