

ARTS 2020

COMPUTER MUSIC STUDIO

Course Syllabus – 2nd Semester, 2007-2008
iEAR Studios, Rensselaer Polytechnic Institute

INSTRUCTOR: Todd Reynolds

Office Location: Flexible, but near Coffee

Office Hours: by email appt.

Phone: N/A

E-mail: todd@toddreynolds.com (this is the best way to reach me)

TIME: 4:00 pm – 7:50 pm, Mondays

LOCATION: WH110

CLASS WEBSITE: <http://arts2020.wordpress.com>

COURSE PREREQUISITES:

Arts 1010 (Media Studio: Audio/Video) or permission from instructor.

COURSE MATERIALS:

1. **READINGS:** All readings will be handed out in class, or available on class website.
2. **LISTENING:** There will be a considerable amount of listening required for this course, mostly in class. These materials will be provided or may be available via the web.
3. You will be **REQUIRED** to purchase at least one 120 DAT tape, and five CD-R discs. You may find that you need more depending on the projects that you pursue. DAT and CD-R media can be purchased in the RPI Bookstore, or you may choose to get them elsewhere.

COURSE DESCRIPTION:

This course is an introduction to music and “sound-art” created through the use of computers and electronics. This is a studio course, and students will be expected to participate creatively in class by listening, taking an active role in discussions, and making your own work through significant, intelligent uses of technology. Although a component of this class includes learning how to use computers and other technological tools, this is not a “how-to-use technology” course. We will focus primarily on learning enough about technology to realize personal creative projects.

COURSE OBJECTIVES:

The objectives of this course are threefold:

1. To gain an understanding and appreciation of computer music through an awareness of the many disciplines underlying the field including: listening skills, musical theory, musical acoustics, psycho-acoustics, digital audio theory, and digital signal processing.
2. To acquire basic technical facility in the areas of audio recording, editing, sound-synthesis and post production.
3. To practice creativity and resourcefulness through your own sonic projects

EVALUATION:

Evaluation is based on the following: A written mid-term test on digital audio theory and concepts from class (10%); projects and compositions (75%); concert reviews (5%); class participation/attendance (10%). Since much of the class is focused on listening to and discussing work in class, attendance is mandatory. We will not tolerate more than two unexcused absences, and more than two unexcused absences will affect your grade.

PROJECTS AND GRADING DISTRIBUTION:

COMPOSITION PROJECTS MAY HAVE MULTIPLE PARTS (A, B, C) DUE ON DIFFERENT DAYS.

1. Project 1 – Field Recording (5 pts): For this project, you will be asked to check out a Dat recorder and microphone from the equipment room and engineer a high quality recording in the field to use for the next two assignments.
2. Composition 1 - PROTOOLS 1 (10 pts): This project will involve transferring your field recording to the computer and using it to produce a soundscape composition with no synthetic sounds.
3. Composition 2 – PROTOOLS 2 (10 pts.): This project will be a more advanced Protools project using effects and any resources available to you in addition to your field recording.
4. Composition 3 - ABLETON LIVE 1 (10 pts): This project will involve the control and placement of audio using Ableton's software, Live.
5. Composition 4 - ABLETON LIVE 2 (10 pts): This project will involve the control of virtual racks of MIDI gear using Ableton Live
6. Mid-term Exam (10 pts): The mid-term will be an exam on technical topics discussed in class related to digital audio and acoustics
7. Composition 5 - Live Control A & B (10 pts.): interactive exercises and looping with Live
8. Final Composition 6 (20 pts): a creative work of your choice using any resources from the course. This may be an expansion of another short class assignment or a completely new work. This composition will be handed in on a final CD that you will create. (interactive or installation-based works may need to be documented in another fashion at the discretion of the instructor)
9. Concert Reports (5 pts): (see below)
10. Attendance/Participation (10 pts)
11. extra credit – Listening/Paper (10 pts): You will be asked to listen to a piece of music chosen with consultation of the instructor, and write a paper in response to it. You will present and discuss the work in class.

MID-TERM EVALUATION

In the class meeting after the Midterm Quiz, students will be given a mid-term assessment of their standing in the course. I will work with students to improve their standing in cases of difficulties.

CONCERT REVIEWS:

You are required to attend at least three musical concerts or sound-based events during the semester. You may attend concerts from the “iEAR Presents” musical events, or any other events you would like to attend on or off campus. They **MUST** be events in which live performed music or sound is the focus. A soundtrack to a film, for example, does **NOT** count. You will then need to submit via email a 1-2 page review of each performance which addresses both technical and aesthetic issues. Reviews should include both a description of the program, instrumentation (when appropriate), and a reasoned critique of the sonic materials and the performance.

RESOURCES AVAILABLE:

Throughout this course, you will make use of the resources in the Undergraduate Computer Music Studio (WH110). Students enrolled in the course will have access to the studio 24 hours a day, and should expect to spend several hours working in the studio each week. You will also have access to recording equipment in the equipment room, which you will be checking out from time to time in order to make field recordings.

When appropriate for an assignment, or to explore sound in general, we encourage the use of your own computer, electronic instruments, etc. Often times, smaller components of a large project can be done on your laptop or home studio facilities and then brought into the main studio to be mixed and written to CD.

EMAIL:

All students will be expected to use and monitor their RCS electronic mail accounts for correspondence concerning this course. Email provides an excellent forum for sharing technical information, as well as for posting changes in assignments, readings, listenings, etc.

STATEMENT REGARDING ACADEMIC INTEGRITY:

Collaboration between students in this course is strongly encouraged. Likewise, students are encouraged—indeed, *required*, via the blog—to exchange ideas, opinions and information. You are also encouraged to help each other in the lab and with performance, production, and presentation of composition projects.

Plagiarism of any kind is in direct violation of University policy on Academic Dishonesty as defined in the *Rensselaer Handbook*, and penalties for plagiarism can be severe. In this class you will be expected to attribute due credit to the originator of any ideas, words, sounds, or music which you incorporate substantially into your own work. This applies particularly to citation of sources for sonic “samples” included in your compositions.

COURSE SCHEDULE:

The proposed course topics and schedule will be as follows (take note of project due dates!). Based on class progress and interests, this schedule is subject to change.

Week 1: 1/14 Introduction to course.

Introduction to critical listening, analysis, and discussion of music, musical form, Studio orientation. Equipment room, DAT recorders Microphones.

READING: vocabulary for a x-cultural analysis

<PROJECT 1 : field recording - ASSIGNED>

Week 2: 1/21

No Class - Martin Luther King Jr. Day

Week 3: 1/28

PROJECT 1 : field recording - DUE. PRESENT IN CLASS

Listening and discussion. Soundscape Composition, Music Concrete.

Introduction to music technology, digital audio and acoustics.

LAB: Digital Sound Transfer and Editing with ProTools.

<COMPOSITION 1 - Field Recording/Composition - ASSIGNED>

Week 4: 2/4

COMPOSITION 1 DUE - Field Recording/Composition. PRESENT IN CLASS

Studio orientation continued. Sound recording and editing

Listening and discussion. Soundscape Composition, Music Concrete, sampling.

LAB: composing with ProTools

<COMPOSITION 2 - Protools Composition - ASSIGNED>

Week 5: 2/11 (Tuesday is a Monday)

COMPOSITION 2 sketch DUE. PRESENT IN CLASS

Listening and discussion, musical form and structure

Lab: more advanced features of Protools

Week 6: 2/19

COMPOSITION 2 DUE - Protools Composition. PRESENT IN CLASS

More on musical acoustics and psycho-acoustics.

Continuation of digital audio theory. MIDI and musical topics.

Historical trends, listening and discussion.

LAB: introduction to Ableton Live

<COMPOSITION 3 ASSIGNED, Ableton Live 1>

Week 7: 2/25

Listening: electroacoustic works with MIDI

Discussion: rhythmic form

Lab: more Ableton Live

<Review for exam.>

Week 8: 3/3

COMPOSITION 3 DUE – Ableton Live. PRESENT IN CLASS

MID-TERM Quiz

<COMPOSITION 4 ASSIGNED, Ableton Live 2 >

Week 9: 3/10 no class – spring break

Week 10: 3/17

Processing, Looping, advanced working with Audio
Lab: more advanced features of Live and Protools
<**COMPOSITION 4 ASSIGNED, Ableton Live 2**>

Week 11: 3/24

COMPOSITION 4 DUE – Ableton Live 2. PRESENT IN CLASS
Discussion: Introduction to real-time audio processing and performance
LAB: Control Tweaking on the fly in Ableton Live
<**COMPOSITION 5A - Real-Time Live ASSIGNED**>

Week 12: 3/31

COMPOSITION 5A DUE, PRESENT IN CLASS
LAB: More MAX/MSP
<**COMPOSITION 5B - more Live ASSIGNED**>

Week 13: 4/7

COMPOSITION 5B DUE – PRESENT PRESENT IN CLASS
final project discussions
Lab: individual help and discussions for final project
<**COMPOSITION 6 – FINAL – ASSIGNED**>

Week 14-15: 4/14-21

listening and discussion of compositional schemes
Final project sketches in presented in class

Week 16: 4/28 **Present Final Projects in Class**

COMPOSITION 6– FINAL – DUE in class.
ALL FINAL PROJECTS AND ALL CLASSWORK DUE