MUCP 5690 Topics in Electroacoustic Music:
Performing Electroacoustic Music
Spring 2015

Time and place: TuTh 9:30 - 10:50, MU 2009
Instructors: Andrew May and Elizabeth McNutt
Office: MU 1003 (May), MU 1007 (McNutt)
Phone #: (940) 891-6816 (May), (940) 565-3706
E-mail: andrew.may@unt.edu, elizabeth.mcnutt@unt.edu
Office hours: TuTh 9-9:30 am (McNutt), Mo 10-11 am (May)
Final presentations: Thursday, May 14, 8:00 a.m. - 10:00 a.m. unless rescheduled
Prerequisite: MUCP 5680 or consent of instructor

Course Description

Overview
Students in this seminar will learn the theory and practice of live electroacoustic performance systems; develop knowledge of the repertoire of works for live performance with technology through research; and develop skills through practical exercises and projects. Final projects will be collaborative performances of either new works or works from the repertoire, in which students will engage as instrumentalists, vocalists, technologists, improvisers, and/or composers; each student will be encouraged to acquire a breadth of hands-on experience by taking on multiple roles.

This class will not teach students how to program interactive computer music, though simple patch editing will be involved in some homework assignments. Performers enrolled in the class are not required to have prior knowledge of interactive computer music systems. Students wishing to develop compositions or improvisation environments as final projects should rely on already-developed skills in this area. The focus for composers in the class will not be on programming novel systems, but rather on collaborating effectively with performers and creating usable, intuitive interfaces and environments for performance.

Materials
• a portable USB drive so you can easily back up your work
• an access card for CEMI studios 2009 and 2013 ($20 deposit, refundable when you return the card). You are encouraged to use the studios extensively, as they have many advantages over home systems.
• Pure Data (pd) software (free download from http://msp.ucsd.edu); you may optionally use Max as well (www.cycling74.com), but numerous examples and materials will be provided in pd.
• online resources, updated each week, at http://cemi.music.unt.edu/5690 will include a library of reading materials, recordings, scores, and software of works under discussion, which you will be able to access using your UNT EUID and password
**Textbooks and Resources**
There will be no required textbook; readings will be available online or in the library.

**Class Themes**
Why do musicians use electronic systems for performance?
What are the opportunities and limitations of available technologies?
What musical relationships are possible/implicit in electroacoustic music systems?
What musical possibilities are explored in repertoire? What are unexplored?
What makes for reliability in performance? What makes for interesting variability?

**Classes and Assignments**
Reading and/or practicum assignments will be given regularly. Tuesday’s classes will generally focus on theory and repertoire, Thursday’s on practice and techniques.

This is a collaborative art, and most assignments and projects will involve some degree of collaboration with other class members. Make sure to be respectful, patient, and courteous with your colleagues; you should expect that they have many insights to share and skills to teach from their musical experience. Engage strongly in these collaborations! If you require an engineer for a project and cannot find a collaborator in the class, alert the instructors and they will try to pair you with one of the CEMI staff.

A midterm project will be assigned, focusing on a work of live electroacoustic music repertoire. Your goal will be to get materials or a work of existing repertoire, get it working, and do an in-class read-through of a portion of the work. The midterm will also include a 2-4 page written essay documenting your reasons for choosing the work, its technical requirements and materials, the challenges it presented technologically and musically, and how you approached them. The essay will be due at the same time as the mid-term project.

Each student will be expected to participate in two final projects, taking on a different role (instrumentalist, vocalist, designer, engineer, improviser, composer, etc.) in each. Final projects will be collaborations with other class members, and may be performances of pre-existing repertoire or works developed during the class. Final projects will be presented during the scheduled final exam time in the Merrill Ellis Intermedia Theater, unless the entire class agrees on an alternate date and time together. The final project will also include a 3-5 page written essay documenting the goals, challenges, techniques, features, collaborative experience, and results of the project. The essay will be due at the same time as the final project.

**Course Policies**

**Grading**
- Readings and class participation 30%
- Practicum assignments 20%
- Midterm project 20%
- Final projects and essays 30%
**Attendance policy**
You have liberty of movement, but there are consequences to your choices. For one thing, attendance will be figured into your class participation grade. More importantly, though, this course will move fast; you will become very confused if you do not attend regularly. In case of 6 or more unexcused absences, the instructors reserve the right to summarily assign you a failing grade for the course. If you are unable to attend a class, inform the instructors in advance, as well as anyone you are collaboration with in the class. It is your responsibility to come to the office hours and/or communicate with your colleagues in the class to make up material missed.

**Academic dishonesty policy**
see also http://www.unt.edu/policy/UNT_Policy/volume3/18_1_11.html

1) Cheating. The term “cheating” includes, but is not limited to:
(a) use of any unauthorized assistance in taking quizzes, tests, or examinations;
(b) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments;
(c) the acquisition, without permission, of tests, notes or other academic material belonging to a faculty or staff member of the university;
(d) dual submission of a paper or project, or resubmission of a paper or project to a different class without express permission from the instructor(s).
(e) any other act designed to give a student an unfair advantage.

2) Plagiarism. The term “plagiarism” includes, but is not limited to:
(a) the knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgement and
(b) the knowing or negligent unacknowledged use of materials prepared by another person or by an agency engaged in the selling of term papers or other academic materials.

**Disability policy**
see also http://www.unt.edu/policy/UNT_Policy/volume2/6_8_3.html

Individuals qualifying under the Americans with Disabilities Act (ADA) who need special assistance to participate in a program, service or activity sponsored by the University Union are asked to contact the Verde Scheduling Office, a minimum of three business days in advance of when they will need the requested assistance to allow time for the request to be handled in an appropriate manner. The Verde Scheduling Office is located on the level 2 of the University Union. Telephone: (940) 565-3804, 565-3806 or TDD access through Relay Texas 1-800-735-2989.
Course Outline – subject to modification!

Week 1 (1/20, 1/22)
Goals and possibilities (assignment: annotated bibliography 1/29)
Basics of audio and music electronics

Week 2 (1/27, 1/29)
Overview of history and repertoire (assignment: “fantasy” performance system 2/5)
Digital audio techniques, formats, issues, limiting factors
recommended: 1/26, 8 pm: Yago de Quay and Joao Data, MEIT (EA, intermedia)

Week 3 (2/3, 2/5)
Repertoire examples and listening analysis

Week 4 (2/10, 2/12)
Communicating with the machine: interface designs (assignment: “music box” solo 3/3)
Controllers, audio analysis, mics, mice, visual displays, etcetera
2/12 submit proposal for midterm project
recommended: 2/13: iARTA Symposium, MEIT (will include arts technology research)

Week 5 (2/17, 2/19)
Guest presentation: Elainie Lillios, composer
Time relations: event triggering, “parallel play,” cueing, and other models
recommended: 2/16, 11 am: EA composer Elainie Lillios lecture-demonstration, MEIT

Week 6 (2/24, 2/26)
Repertoire examples and listening analysis
Time in processing delays, reverberation, comb filtering
recommended: 2/24, 8 pm: Spectrum concert - performances of live EA music, MEIT

Week 7 (3/3, 3/5)
Control, performance, instruments and meta-instruments
Pitch detection, score tracking, score following, and related techniques

Week 8 (3/10, 3/12)
Midterm project presentations
Team forming and planning for final projects
3/10: midterm project due

Week 9 (3/24, 3/26)
Referred and transformed sound (assignment: “delay playground” duet 4/9)
Sound transformation: delay based effects and filtering
3/24 submit formal proposals for final projects

Week 10 (3/31, 4/2)
Ensemble issues in chamber music with electronics
Repertoire examples
Week 11 (4/7, 4/9)
Setup, sound check, and rehearsal techniques
Common performance issues with technology
recommended: 3/7, 8 pm: Nova Ensemble,VCH (some works with amplification)

Week 12 (4/14, 4/16)
Uncertainty, indeterminacy, improvisation (assignment: gaussian controls 4/28)
Indeterminacy versus unreliability: how do you know?

Week 13 (4/21, 4/23)
Equipment choices, technical riders, and good communication
Acoustic factors, speaker placement, microphone techniques
Recommended: 4/20, 8 pm: intermedia performance art class concert, MEIT

Week 14 (4/28, 4/30)
Final project development: presentations and discussions

Week 15 (5/5, 5/7)
Final project development: presentations and discussions

Week 16 (finals week – no classes)
Presentation of final projects (invite your friends!)
Thursday, May 14, 8 am: official final exam time