Course Title: Advanced Mixed Music Composition (Mondays, 3:10-5:00pm, Prentis 320H)

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Rationale for Giving the Course

The use of electronics in concert music is now intimately woven into the fabric of Western culture. Yet for contemporary concert-music composers who commonly work within the mixed music genre (i.e., music for live instruments and electronics), three considerable challenges arise. Firstly, many composers seem to create works that fall into a common and predictable performance paradigm in which instrumentalists generate and/or accompany an electronic part diffused via a multi-channel loudspeaker system, usually placed in front or around the audience. The familiarity of this paradigm makes composers less likely to consider other more original performance practices, and as a consequence, the full creative potential of working with electronics remains untapped. Secondly, while classical instrumental ensembles and performers increasingly program works with electronics, composers continue to struggle with notating the electronic part, and rarely produce a clear and concise documentation package that explains how the electronics function. Thus the composer’s physical presence is often required at concerts of their works, which minimizes the chances of repeat performances in diverse locations. Lastly, the use of electronics has also meant that multiple versions of a particular composition may co-exist. For instance, there may be the live performance, the audio recording of the live performance, the controlled studio recording of a multi-take performance, and a video recording of a staged performance in an unorthodox environment. All versions are essentially the same musical work, but with varying degrees of difference that may greatly influence the aesthetics and perception of the piece. As such, the composer risks that his or her intentions get lost between these multiple versions. The course proposed here, intended for graduate students in music composition who already have experience with electronic music, addresses these three challenges from a creative and technical point of view, and aims to broaden students’ awareness of the full potential of electronics in concert-music today.

Bulletin Course Description

This course creatively examines advanced and unorthodox uses of electronic tools, devices, and techniques in the creation of compositions for live acoustic instruments and electronic devices of all types (i.e., fixed “tape”, live processing, electric instruments, MIDI controllers, etc.).

Full Course Description

Advanced Mixed Music Composition explores creative uses of advanced audio production tools (i.e., various DSP plug-ins, controllers, microphones, surround speaker arrays, etc.) and techniques (audio editing, mastering, performance simulations, synchronization, etc.); and looks at their impact on the aesthetics and poetics of a musical project. A special emphasis is given to the problems arising from the transition between the precisely controlled studio environment to the live concert hall (i.e., loudspeaker distance, room liveliness, monitoring, etc.), and how this transition can influence the audience’s perception of a work. In addition, the course stresses the importance of synchronization, notation, documentation, and portability as fundamental considerations during the compositional process. Lastly, techniques for producing simple yet
high quality videos for archival purposes are shown, as a means to present yet another point of view on a musical project.

The aims of the course are threefold:

1) To creatively explore unique and original uses of electronic tools and techniques of all types.

2) To address the differences that may arise when a work is performed in different environments or played back via various mediums, and consider the aesthetic impact of these differences.

3) To fully understand the requirements needed to produce a precise, brief, and clear documentation package along with a composition in order to maximize the success of repeat performances.

The course requires that students have a solid understanding of basic audio editing techniques, DSP effects, and standard audio equipment (mixers, microphones, audio interfaces, etc.). Furthermore, a strong background in instrumental composition (any style) is expected, and students should already have composed at least one work for live instruments and electronics.

**Evaluation**

Students will be required to either compose or revise a short (~5-10min) for one instrumentalist and electronics, and produce a high quality audio (or video) recording of the work, along with a clear and accurate documentation package. Furthermore, during the final two class sessions, the work will be played live by the performer, but with another student running the electronics using the provided documentation package. This performance will then be compared to its audio (or video) version, and the composer will be required to comment on the role of the electronics in the piece and account for the differences between the two versions.

Breakdown of grading scheme:

- Originality, creativity, and integration of the electronic part in the composition 40%
- Technical quality of audio (or video) recording and clarity of the documentation package 40%
- Final concert/presentation (preparation of other student’s work, explanation of the reasons for differences or similarities between the two versions of the piece) 20%

**Academic integrity**

Columbia University values academic integrity. Therefore all students must understand the meaning and consequences of cheating, plagiarism and other academic offenses as described in the Faculty Statement on Academic Integrity (http://college.sandbox.college.columbia.edu/faculty/resourcesforinstructors/academicintegrity/statement).
Semester Timeline:

- Week 1 (Sept 10th): Intro + “Sound Tools” vs. “Tool Sounds”
- Week 2 (Sept 17th): Spatialization
- Week 3 (Sept 24th): Impulse Response + Timbre-Modifying DSP Effects
- Week 4 (Oct 1st): Synchronization
  Reading for this class:
  OR...If you don’t read French:
- Week 5 (Oct 8th): Portability of Work
  Reading for this class:
- Week 6 (Oct 15th): Sound Recording: Aesthetic and Practical Perspectives
- Week 7 (Oct 22nd): Audio Mastering (class visit to a mastering studios)
- Week 8 (Oct 29th): Notation of Electronics
- Week 9 (Nov 5th): NO CLASS
- Week 10 (Nov 12th): Video/Photo for Documentation Purposes
- Week 11 (Nov 19th): Live Mixing
- Week 11 (Nov 26th): Individual Meetings or Special Topic
- Week 12 (Dec 3rd): Concert/Presentations
- Week 13 (Dec 10th): Concert/Presentations
Bibliography


