SEMESTER AT SEA COURSE SYLLABUS

Discipline: Music
Spring 2009
MUSI 235Z: Technosonics
Lower Division
Professor Matthew Burtner, Department of Music, UVa

COURSE DESCRIPTION

TechnoSonic Migrations explores the history, theory and practice of electronic music in the 20th and 21st centuries. The course examines how these technologies find voice in diverse cultures of the world, particularly in those we visit on the voyage. The proliferation of electronic and digital audio tools provides an opportunity to study how the occidental approach to computer music is adapted and refined as it migrates, and combines with music traditions from diverse genres and traditions. Indian *Goa*, Japanese *Noise*, and electronic music of northern Africa, Polynesia, and the Americas reveal nuanced approaches to electronic music highly tied to tradition and culture. This course will offer a wide view of computer music as "TechnoSonics". In addition to historical and theoretical lectures, students will experiment with tools and techniques for composing electronic music. No previous music experience is necessary to take this class.

REQUIRED TEXTBOOK

Electronic and Experimental Music
by Thom Holmes

REQUIRED MATERIALS

1/8" headphones (for iPod or laptop)
mp3-player and/or laptop computer
512 MB jump drive for file backup if you do not use your own laptop
see software downloads below for your compositional work.

SOFTWARD DOWNLOADS

If you are bringing a laptop, please install the software on your own computer. Here are the links:
Soundhack: http://www.soundhack.com/stuff/SH893.hqx
Frequency: http://tc.versiontracker.com/product/redir/lid/307535/Frequency.dmg
Audacity: http://audacity.sourceforge.net/latest/audacity-macosx/audacity-macosx-1.2.4b.dmg
MaxPlay (also called Max/MSP Runtime). Download the full version with documentation and just throw away the Max/MSP4.6 icon and replace it with the MaxPlay icon. This will allow access to all the documentation.
http://www.synthesisters.com/download/maxmspruntime456.dmg
If you use an Apple computer make sure **Garage Band** is installed and updated.
If you use a Windows computer, download a free multitrack audio software such as **nTracks** (http://ntrack.com/download.php#requirements).

METHODS OF EVALUATION

Attendance: 20% (2 free personal-days excused for any reason then -3% for each additional absence up to 20%)
Technosonics on site concert reports: 10% (attend two MICE events and write short concert reports).
Audio Assignments: 30% (three assignments detailed below)
Final project: 25% research paper on a music technology topic, or an original composition building on the assignments.
Quizzes:15% (three quizzes on historical studies and listening)

ASSIGNMENTS DETAILED

Assignment 1: multitrack mixing (audio file). Create a short composition, between 1min and 1.5min by remixing sounds in the multitrack software and processing sounds. Use multiple tracks (at least 4) and combine many different kinds of sounds. Explore the use of looping, panning, volume enveloping, and processing the sounds. The assignment is graded on timely completion (2/5), musicality (2/5), and use of software (1/5).

Assignment 2: sound design (audio file). Explore the sound design programs. Process sounds from the sound library (or your own sounds) in the different programs and edit them in Audacity. Create five different sounds. If you use a sample, your sound should be transformed such that the source is unrecognizable. Carefully prepare each sound in Audacity by normalizing it and fading in and out the beginning and end to avoid clips. The assignment is graded on timely completion (2/5), musicality (2/5), and use of software (1/5).

Short Assignment 3: signal processing (audio file). Explore the signal processing and sound synthesis programs. Use the MaxPlay instruments to make synthesized sounds. Also continue working with the SoundHack, Frequency and Audacity software tools. Create a one minute composition in your multitrack environment using your sounds. The assignment is graded on timely completion (2/5), musicality (2/5), and use of software (1/5).

Short Assignment 4: review another student's assignment three. Write a review of the techniques used and why the music is especially effective for you. The review should not be shorter than 500 words. Address the use of sounds (timbres), layering of tracks, musical form, concept (idea), and technical skill of software used. The assignment is graded on timely completion (2/5), completeness of review (2/5), and writing (1/5).

TOPICAL OUTLINE OF COURSE

The syllabus groups material into variable-length units of one to three days. Class time alternates between periods favoring lecture, directed lab computer work, group discussion of projects, and listening to music.

unit 1----------

lecture: intoduction to digital music and technosonic migrations
tech: orientation to the class tools
listening: The Orb*, Little Fluffy Clouds*; Jimi Hendrix, live performances;

unit 2 ----------

migration focus: Jamaican Dub
lecture: The pre-electric origins of digital music (since ancient Greece)
tech: soundfile editing
listening: Kraftwerk, *The Robot* and *Calculator*; Guillaume Dufay, *Nuper Rosarum flores*(1400s isorhythmic motet); Lee Scratch Perry, *My name is* from *Techno Party;* DJ Spooky (with Mad Professor and Lee Scratch Perry), *Dubtometry;*
reading: Thom Holmes, Chapter 1

unit 3 ----------

migration focus: Balearic Ibiza Techno
lecture: Pre-20th Century background,
tech: multitrack soundfile editing
listening: Aphex Twin, *Track #2* (from *Windowlicker*), Wolfgang Amadeus Mozart, *Musical Dice Game*; Erik Satie, *Vexations*; Julian Carillo, *Preludio a Colon*

unit 4 ----------

migration focus: abstract expressionism and the voice: Luciano Berio and the birth of Italian electronic music
lecture: Early electronic instruments; Russolo's Art of Noises and the Noise Orchestra; live electronic music of the early 20th Century.
tech: the multitracking environment
listening: Lee Scratch Perry, *My name is* (from Techno Party); DJ Spooky (with Mad Professor and Lee Scratch Perry), *Dubtometry*; Erik Satie, *Gymnopedies 1*; Clara Rockmore *performance of Sant-Saens The Swan on the Theremin*; Beach Boys, *Good Vibrations;* Olivier Messiaen, *Livre du Sacremant* for organ; Messiaen, *Fête des belles eaux* for 6 Ondes Martenot; Led Zeppelin, *Whole Lotta Lov*e; Nine Inch Nails, *Just Like You Imagined*; Tchaikovsky, *Valse Sentimentale* performed by Clara Rockmore; Radiohead, *Where I End and You Begin*.
reading: Luigi Russolo, The Art of Noises: Futurist Manifesto

unit 5 ----------

migration focus: tribal belly dance (Egyptian rhythms, synthesizers, pan-cultural)
lecture: The Electronic Music Studio as Instrument Part 1: Musique Concrete;
tech: working with samples
reading: Holmes, Chapter 3, Pierre Schaeffer, Acousmatics
listening: Pierre Schaeffer, *Etudes du Bruits*; Pierre Henry and Pierre Schaeffer, *Etude por un homme seule*; Piere Henry, *Psyche Rock*; Danny Elfman, *Futurama*

unit 6 ----------

migration focus: Goa Trance (India)
lecture: The Electronic Music Studio as Instrument Part 2:Electronische Music;
tech: working with oscillators in Max/MSP;
Assignment 1 due
reading: Holmes, Chapter 4 and "Stockhausen's Journey" from Chapter 6
listening: Goa Gil, *Hux Flux*; Ravi Shankar, *Morning Raga*; Ryuichi Sakamoto, *20Msec*, and *Ngo*; Yellow Magic Orchestra, *Computer Game*; Bjork, *An Echo/A Stain*; *Medula* and *Joga*; Stockhausen, *Gesang der Junglinge* and *Studie I*

unit 7 ----------

migration focus: Phumphuang Duangjan and the Electric Luk Thung genre (Thailand)
lecture: introduction to acoustics / inside the sound-spectrum / Poeme Electronique
reading: Holmes Chapter 5 and Varese and the Listener's Experiment from Chapter 6.
tech: sound design in Max/MSP and sound design using spectral filtering;
listening: Matmos, *California Rhinoplasty*; Daft Punk, *Harder, Faster, Better, Stronger*; Air, *How does it make you feel?;* Varese, *Poeme Electronique*; Xenakis, *Concret PH*
Quiz 1 on Early Electronic Music

unit 8 ----------

migration focus: Hanoise: focus on vietnamese composer, Vunhat Tan
lecture: The 1950s and 1960s Part 1: Computer Music/ Digital Audio
listening: Missy Elliot and Timbaland, *Work it* and *Pass that Dutch*; my *Neptunes Mash Up*; Neuman Guttman, *In a Silver Scale*; Max Mathews' Music 1, *Daisy*; video of *2001 Space Odyssey*, HAL singing *Daisy*

unit 9 ----------

migration focus: east/west synthesis in Chinese electronic music
lecture: The 1950s and 1960s Part 2: Sequencers and Electric Instruments for live performance;
listening: Amon Tobin (Cujo), *Traffic*, and *Verbal*; Suba, *Seria*; Suba/Bebel Gilberto, *Tanto Tempo*; Morton Subotnick, *Silver Apples of the Moon*; David Rosenboom, *In the Beginning;* Moog sounds; The Monkees, *Star Collector*; Wendy Carlos, *Switched on Bach.*

unit 10 ----------
migration focus: Japanese noise and Japanese gaming styles
lecture: binary theory and computation
reading: Holmes, Chapter 10
Quiz 2 on Computer Music History

unit 11 ----------

migration focus: Fenua Tahitian
lecture: 1970s to the 1980s / MIDI (Musical Instrument Digital Interface)
reading: Holmes Chapter 11
listening: John Oswald (Plunderphonics), *Brown, Net, Dab* and *Urge-Marianne Faith No Morrisey* (from *Plexure*); Negativeland, *Negativland vs U2 (the banned single)*, and *Michael Jackson;* John Chowning, *Stria*; Barry Truax, *Riverrun*; A-Ha, *Take on Me*

unit 12 ----------

migration focus: Central/South American traditions: focus on Nu-Brazil
lecture: Drones, Environmental and Ambience
tech: temporal and layering techniques;
reading: R. Murray Schafer, The Music of the Environment; Brian Eno, Ambient Music;
listening: Cocosuma, *Tapping the Source;* Erik Satie, *Gymnopedie 1*; Brian Eno, *Music for Airports* and *Unfamiliar Winds* ; Tangerine Dream, *Phaedra*; Pink Floyd, *a Saucerful of Secrets*

unit 13 ----------

lecture: Pulse and Polyrhythm / Machines and Process
tech: looping techniques;
Assignment 3 due
readings: Steve Reich: Music as a Gradual Process; Philip Sherburne, Digital Discipline: Minimalism in House and Techno (319 in Cox)
listening: DJ Krush, *Song for John Walker* (featuring Anticon), *Toki No Tabiji* (Journey of Time featuring Inden); Steve Reich, *Come Out*, Steve Reich, *Electric Counterpoint*; Gyorgy Ligeti, *Poeme Symphonique for 100 Metronomes;* Arthur Ganson, *Machines*; Kanto Hario, *Machines*; Alvin Lucier, *Music on a Long Thin Wire;* and *I am sitting in a room;*

unit 14 ----------

lecture: soundscape and surround sound techniques;
Assignment 4due
tech: sound mass and swarming techniques
listening: Hildegard Westerkamp, *Talking Rain*; Barry Truax, *Pendlerdrom*, Jon Appleton, *Shermetyevo Airport Rock;* Krystof Penderecki, *Threnody for the Victims of Hiroshima;* Gyorgy Ligeti, *Lux Aeterna*; Joan LaBarbara, *Erin*; Einojuhani Rautavaara, *Cantus Arcticus;* Horatiu Radulescu, *String Quartet Nr. 4, Op33 -- Infinite to be cannot be infinite, infinite anti-be could be infinite.*

unit 15 ----------

Media Art: records, CDs, radio, and mixed media
reading: Christian marclay & Yasunao Tone: Record, CD, Analog, Digital (p341, Cox); Paul D. Miller, Algorithms: Erasures and the Art of Memory
listening: Invisible Skratch Piklz, *World Cut Scratch;* The X-ecutioners, *Mad Flava;* John Cage, *Imaginary Landscape No. 1 and No 4;* Karlheinz Stockhausen, *Kurzwellen;* Scanner and Tonne, *Sound Polaroids;* Herby Hancock, *Rockit;* Terre Thaemlitz, *Inelegant Implementations;* Vladimir Ussachevsky, *Piece for Tape Recorder*

unit 16 ----------

Final projects due
discussions: Final Projects
Quiz 3, comprehensive