New Ground I   **The Ohio State University**
Interactive Performance   **Department of Dance and ACCAD**
Professor Norah Zuniga Shaw   Email: zuniga-shaw.1@osu.edu
Dr. Matthew Lewis   Email: mlewis@accad.osu.edu
Class meeting: 2 1.5 / hrs. cl. + 8-15 hours of outside research per week
Website: http://accad.osu.edu/~mlewis/NewGround/
WIKI: http://wiki.accad.ohio-state.edu/legacy/wiki.pl?NewGroundCourseWiki

1. Course Title, Prerequisites, and Description:

692: New Ground 1_Interactive Performance, 5 credits
Prerequisites: elementary digital video and web design and permission of instructor

The New Ground cycle is an advanced seminar that fosters innovation and the creation of new knowledge in the engagement of the body with emerging technologies (in theater, dance, music, art, design, computing, communications and other allied fields). The specific subject of study varies each year as new opportunities and technologies become available. In year one of the New Ground Cycle we will be focusing on interactive performance or the engagement between the body, interactive media technologies, and performance.

> **Winter Quarter:**
> The first quarter of the New Ground cycle is an introduction to creative concepts in interactive performance. We will draw extensively from theories and practices in dance and theater improvisation, architecture, multimedia, the visual arts, and computer science. Combined with a philosophical dimension this initial research into artistic concepts in the body/mind/space/technology continuum will prepare the student for a series of collaborative experiments in new collaborative artistic practices during Spring quarter.

2. Course Objectives and/or Student Learning Outcomes:

At the successful completion of the course, the student will demonstrate:

- An increased conceptual and kinesthetic awareness of mediated environments and the ways they affect movement and performance;
- An understanding of emerging technologies that allow for interactivity in performance with a focus on Max/MSP/Jitter and wearables;
- Knowledge of key themes, theoretical issues, and technological tools in the creative engagement between body-based performance practice and technology;
- An understanding of the fundamental differences between the aesthetics of controlled spaces and generative systems;
- The ability to collaboratively plan, design and present ideas and prototypes for interactive performances.

3. Course Methodology:

We will read about and view several key theoretical and creative works at the intersection of the body, performance and interactive technology. Students will be expected to carefully analyze all assigned readings and come to class prepared for in-depth discussion of assignments. Throughout the course students will contribute to a class blog to which they will post relevant discovered resources, participate in ongoing discussions, and post one analytical reading response essay each during the quarter (to be assigned the first day of class).

Students will additionally be provided with technology resources with which they will be expected to design and show a number of short studies using the techniques and concepts discussed during the quarter. Basic knowledge of creating and manipulating image, video, and web files will be assumed and not taught. Peer to peer support is encouraged. Assignments will be flexible enough to allow students from different disciplines to create demonstrations appropriate for their disparate fields and goals. Interdisciplinary collaboration will be required.

Readings, images, videos, and web sites introducing different approaches and ideas will be demonstrated throughout the course, students will learn via creating, experimenting, and discussions. The class format will take on a variety of styles as the disparate subjects dictate. Examples will be presented in lectures and demonstrations, and in-class hands-on labs will allow students to work together on problem solving.

Students must demonstrate satisfactory achievement of course objectives through fulfillment of course projects and by contributing to class discussions and critiques. Course evaluation will be based on the following:

Blog Essay:	15%
Showings (3):	10% each
Presentation (1):	15%
Class Participation:	
Readings and discussion	30%
Weekly blog updates	10%

4. Grading Policy:
All students are required to be on time and in attendance for every class. Students arriving to class more than 10 minutes late will be counted as absent. Two absences will lower a final grade by 1/2 a letter, three absences will lower a final grade by one letter and four absences will result in failure of the course.

Adherence to deadlines is expected. It is the individual student's responsibility to keep track of deadlines and to present the work to the class and instructor on the specified dates. 15% per day will be subtracted from late assignments. Technical problems will happen frequently during the quarter and students may have trouble accessing resources during "prime time" hours. Students must make their own arrangements for overcoming these difficulties and submitting work on time. Students should plan their time and work to anticipate the technical hurdles that are part of the profession.

Academic Misconduct (rule 3335-31-02) is defined any activity which tends to compromise the academic integrity of the institution, or subvert the educational process. Please refer to rule 3335-31-02 in the student code of conduct for examples of academic misconduct. To register a documented disability, please call the Office of Disability Services (located in 150 Pomerene Hall) at 292-3307; or 292-0901 TDD, and notify the professor. If this course is taught in the evening, student escort service is available via 292-3322.

5. Required Texts:
Required course reader available at *Grade A Notes*

6. Topics and Assignments:

1. Introduction to Issues in Interactive Performance
   a. Touring the field. Links and examples: interactive tech-body -performance
   b. Resources: EMMA - computers, video, software overview, architecture collab
   c. Blogging: linking resources, ongoing discussion, topical essays (assign)
   d. Due Thursday: readings 01 – Wilson, Ascott, Manovich, Kaprow
   e. Due Sunday 5pm: Set-up blog, say who you are and include a pic
2. The Dancer's Mind
   a. Improvisation and embodied technologies
   b. Due Tuesday: readings 02 – Schechner, Sobchack, Forti, Foster
   c. Due Thursday: showing 01 – interactive improv demos
3. The Programmer's Body
   a. Robot motion: contact/react (subsumption arch), spatial reasoning (constrained config space), task planning (hierarchical problem solving)
   b. Behavioral Animation: building blocks (follow, seek, avoid), flocking, emergence
   c. Due Tuesday: readings 03 – Latombe, Reynolds, Reas
4. Interaction: individuals + others (person/computer)
   a. Notions of interactivity
   b. Method classification: trigger: sequence/change, control: set/steer, influence: dynamic triggering, variable control
   c. Due Tuesday: readings 04 – Manovich, Dinkla, Kay
   d. Due Thursday: showing 02 – real-time algorithms for one body studies
5. Responsive Environments: emphasis on the environment, with visitors (zero, one, many...)
   a. Experiencing responsiveness, sensors and effectors
   b. Due Tuesday: readings 05 - O'Sullivan, Krueger, Maeda, Co, Rozin, Coleman
6. Determinism/Randomness/Authorial control/Chance operations - crafting chaos
   a. Types of "noise", (un) predictable systems, role of surprise, generative processes
   b. Due Tuesday: readings 06 - Levin, Perlin, Galanter
7. Integration and collaborative idea generation and presentation
   a. Troubleshooting
   b. Introduction to storyboarding, design mock-ups and proposals
   c. Due Thursday: showings 03 – generative performance studies
8. Integration: pulling it all together
9. Next steps (Mapping):
   a. Data/Info/Knowledge: collect/acquire, transcode/remap, analyze, present/perform
   b. Locative media, webcams, GPS, 3D view/affect remote locations control virtual 3D object/camera/environment, geography, telematics VR, landscapes
   c. Due Tuesday: Manovich
10. Presentations

Assignments:
1. showing 01: interactive improv demos
2. showing 02: real-time algorithms for one body studies
3. showing 03: generative performance studies
4. showing 04: prototype presentations
5. Blog updates and essay

7. Bibliography:

Ascott, Roy. 2000. Art Technology and Consciousness mind@large. Bristol: intellect. 2-12.

Dinkla, Soke. 1996. "From Participation to Interaction: Toward the Origins of Interactive Art." <u>Clicking In</u>. 279-289.

Forti, Simone. 2003. "Animate Dancing." David Gere and Ann Cooper Albright eds. *Taken by Surprise*. Middletown, Conn.: Wesleyan University Press. 53-63.

Foster, Susan. 2003. "Taken By Surprise: Improvisation in Dance and Mind." David Gere and Ann Cooper Albright eds. *Taken by Surprise*. Middletown, Conn.: Wesleyan University Press. 3-10.

Foucault, Michel. 1998. [1967]. "Of Other Spaces." *Visual Culture Reader*. Ed. Nicholas Mirzoeff. New York: Routledge. 229-236.

Galanter, Philip. 2003. "What is Generative Art? Complexity Theory as a Context for Art Theory." Generative Art 2003 Conference Proceedings, Milan. Online: http://www.philipgalanter.com/academics/

Kaprow, Allan. 2004. "Just Doing." Henry Bial. *The Performance Studies Reader*. New York: Routledge. 139-145.

Kay, Alan. 2001 [1989]. User Interface: A Personal View." *Multimedia: From Wagner to Virtual Reality.* Eds. Packer and Jordan. New York: Norton. 121-131.

Krueger, Myron. 2001 [1977]. "Responsive Environments." *Multimedia: From Wagner to Virtual Reality.* Eds. Packer and Jordan. New York: Norton. 104-120.

Latombe, Jean-Claude. 1991. "Introduction and Overview." *Robot Motion Planning*. Boston: Kluwer Academic Publishers. 3-7,12-20,45-50.

Levin, Golan. 2004. "Interview by Carlo Zanni for CIAC Magazine" online: http://www.flong.com/writings/interviews/interview_ciac.html

Maeda, John. 2004. "Physical." *Creative Code*. New York: Thames and Hudson. 145-146.

Co, Elise. 2004. "Beyond Pixels." *Creative Code*. New York: Thames and Hudson. 172.

Rozin, Daniel. 2004. "Physical Computing." *Creative Code*. New York: Thames and Hudson. 174.

Manovich, Lev. 1999. *The Language of New Media.* MIT Press. 27-61 and 161-175.

Meadows, Mark Stephen. 2003. "Interaction." *Pause & Effect: the art of interactive narrative*. Indianapolis: New Riders. 37-59.

O'Sullivan, Dan and Tom Igoe. 2004. "Physical Interaction Design, or Techniques for Polite Conversation." *Physical Computing*. Boston: Thomson. 181-189.

Perlin, Ken. 2005. "Building Virtual Actors Who Can Really Act." Online: http://mrl.nyu.edu/~perlin/experiments/virtual-storytelling/

Reas, Casey. 2005 "Processing Tutorials." Online: http://processing.org/learning/tutorials

Reynolds, Craig. 1999. "Steering Behaviors For Autonomous Characters." Game Developer's Conference 1999. Online: http://www.red3d.com/cwr/papers/1999/gdc99steer.html

Schechner, Richard. 2002. "What is Performance." *Performance Studies: An Introduction*. New York: Routledge. 22-44.

Sobchack, Vivian. 2004. "Beating the Meat/Surviving the Text, or How to Get Out of this Century Alive." *Carnal Thoughts: Embodiment and Moving Image Culture.* Los Angeles: University of California Press. 165-178.

Wilson, Stephen. 1992. "Light and Dark Visions: The Relationship of Cultural Theory to Art that Uses Emerging Technologies". SIGGRAPH'92. Los Angeles: Association for Computing Machinery. 1-20.

Zurbrugg, Nicholas. "Bill Viola." *Art, Performance, Media: 31 Interviews*. Londan and Minneapolis: University of Minnesota Press, 2004. 331-340.

Zurbrugg, Nicholas. "John Cage." *Art, Performance, Media: 31 Interviews*. Londan and Minneapolis: University of Minnesota Press, 2004. 101-116.