# *Wearable Technology*

Ostrenko and Ryan

**ARTH 4420 sec. 1 / ART 4240 sec. 2 / Spring 2015**

Class: Tu 3:00 – 6:00 PM Workshop Th: 3:00-6:00 Location: TBA

L: Atsuko Tanaka, *Electric Dress*, detail, 1956; R: Anouk Wipprecht, *Smoke Dress*, 2012

Wearable devices and enhanced garments are among the hottest tech trends today, but a significant number of artists worldwide are also creating mobile, sonic, and performative art works with wearable technologies and exhibiting these in museums.

This cross-listed course combines history, theory, and practice. Students will learn about the embodied interface, how it impacts our habits of dress, and even how we might evolve as a species. The course combines lectures, discussions, and workshops where they will learn about Arduinos and microprocessors and how to use them and devise wearable items of their own. Issues to be covered and debated include the relationships between technology and dress, technology and the body, the ethics of biometrics and data surveillance, and the meaning and merits of posthumanism.

Students will be enrolled for credit as either Art History or Digital Art, *but course and class work will be the same for both*. All students will complete research and written assignments as well as create wearable projects. There will be opportunities to exhibit the final projects at the end of the course.

**Books and Resources**

Required:

Susan Elizabeth Ryan. *Garments of Paradise: Wearable Discourse in the Digital Age*. Cambridge, MA, MIT Press, 2014.

Kate Hartmann. *Make: Wearable Electronics*. Sebastopol, CA, Maker Media, 2014.

*Other Readings* will be required and assigned on an ongoing basis. These will generally be uploaded to the course Moodle site as pdfs. ***Readings MUST be done BEFORE the class meeting for which they are assigned, to enable class discussion.***

## Materials Lists

Option 1: Minimum ($26.85)

- FLORA - Wearable electronic platform: Arduino-compatible ($19.95)
  - http://www.adafruit.com/products/659
- 3 x AAA Battery Holder with On/Off Switch and 2-Pin JST (1.95)
  - http://www.adafruit.com/products/727
- Alkaline AAA batteries - 2 pack
  - http://www.adafruit.com/products/617 (.95)
- USB cable - A/MiniB - 3ft
  - http://www.adafruit.com/products/260 (4.00)

Option 2: Recommended ($39.95)

- FLORA Budget Pack
  - http://www.adafruit.com/products/1405

## Course Requirements (Grading)

| | |
|---|---|
| Midterm Exam | 15 % |
| Midterm Project | 15 % |
| Final Project | 30 % |
| Final Paper | 30 % |
| Overall Course Contribution | 10 % (attendance, participation in discussion, cooperation with faculty and fellow students, positive contribution to class) |

Attendance and Grading

Attendance counts. Students are expected to have ***NO*** unexcused absences. Excuses given ***ONLY*** in the case of family emergencies and student contacts one of the professors within 48 hours of class and follows up with documentation. No excuses for the midterm quiz, project, or final project and paper due dates.

Please note LSU regulation as follows:
LSU PS44.R03: "Because class absences are likely to affect a student's mastery of course content, they may be considered among these 'academic considerations' in determining the final course grade. Therefore, instructors, at their discretion, may also include 'unexcused' absences as component of the course grade, as long as attendance policies are spelled out clearly in the course syllabus at the beginning of the semester."

## Tentative Class Schedule

*Tuesdays: Some Tuesdays are broken into 2 parts—theory and practicum. Thursdays = workshop days. Schedule changes may occur and students are responsible for keeping up.*

Readings: All assigned readings are to be done ***BEFORE*** class and students come prepared to discuss the assignments. *Garments of Paradise* is abbreviated as *GoP*, Hartman's book is *Make*.

**January**

Tu 20 Cl. 1 Rdgs. *GoP*: Intro. pp. 1-14 ; *Make*: Preface, pp. xi-xvii

1. Intro: Derick and Susan first hour;
2. Jessie Allison, guest, demonstration and discussion

Tu 27 Cl. 2 Rdgs. *GoP*: Ch. 1 pp. 15-51; *Make*: Ch.1 pp. 1-33

1. Susan: Disparate Histories
2. Derick: Circuits

**Feb**

Tu 3 Cl. 3 Rdgs. *GoP*: Ch. 2 pp. 95-131; *Make*: Ch. 2 pp. 35-49

1. Susan: Wearable Computing
2. Derick: Conductive Materials

Tu 10 Cl. 4 Rdgs. *Make*: Ch. 3 pp. 51-64
(*Prof. Ryan absent)*

1. Derick: Switches
2. Talk about the project

Tu 17 No Class: Mardi Gras

Tu 24 Cl. 5 Rdgs. *GoP*. Ch. 3 pp. 95-131; *Make*: Ch. 4 pp. 65-76

1. Susan: Invisible Computing
2. Derick: E-Textile Toolkits
3. Derick: Making Electronics Wearable

**March**

Tu 3 Cl. 6 1. Quiz
2. ***1st Project Due***

Tu 10 Cl. 7 Rdgs. *GoP*. Ch. 4 pp. 133-192; *Make*: Ch. 5 pp. 77-89

1. Susan: Material Interface
2. Derick: Microcontrollers
[Midterm Grades due]

Tu 17 Cl. 8 Joey Berzowska: talk and critique

**Wed. March 18, Joey Berzowska Manship Lecture**

Tu 24 Cl. 9 Rdgs. *GoP*. Chap. 5 pp. 193-227; *Make*: Ch. 6 pp. 91-112

1. Susan: Critical Interface
2. Derick: Sensors

Tu 31 Cl. 10 Rdgs. *GoP*. Chap. 6 pp. 229-249; *Make*: Ch. 7 pp. 113-143

1. Susan: Augmented Dress
2. Derick: Actuators

**April**

Tu 7 Spring Break

Tu 14 Cl. 11 Rdgs. *Make*: Ch. 8 pp. 145-191; Ryan, "Hyperdressing: Wearable Technology in the Time of Global Warming," pdf

1. Susan: Wearable Technology and Sustainability
2. Derick: Wireless

Tu 21 Cl. 12 *Make*: Ch. 9 pp. 193-212; other TBA

1. Susan: Posthumanism: Wearable Technology and the Future
2. Derick: Project Help

**April** (cont.)

Tu 28 Cl. 13 No readings

***Final Projects Due: Display and Discussion***

**May**
Friday May 1: ***Final Paper Due*** – details TBA