FLORIDA ATLANTIC UNIVERSITY™

Graduate Programs—NEW COURSE PROPOSAL[1]

UGPC APPROVAL _____
UFS APPROVAL _____
SCNS SUBMITTAL _____
CONFIRMED _____
BANNER POSTED _____
CATALOG _____

DEPARTMENT: COMMUNICATION AND MULTIMEDIA

COLLEGE: Dorothy F. Schmidt College of Arts and Letters

RECOMMENDED COURSE IDENTIFICATION:

PREFIX ____DIG_____ COURSE NUMBER ____6551_____ LAB CODE (L or C)_____

(TO OBTAIN A COURSE NUMBER, CONTACT MJENNING@FAU.EDU)

COMPLETE COURSE TITLE: PROGRAMMING FOR INTERACTIVITY

EFFECTIVE DATE
(first term course will be offered)
FALL 2014

CREDITS: 4

TEXTBOOK INFORMATION:
FORM + CODE
PROGRAMMING THE RASPBERRY PI

GRADING *(SELECT ONLY ONE GRADING OPTION)*: REGULAR __X____ SATISFACTORY/UNSATISFACTORY _____

COURSE DESCRIPTION, NO MORE THAN THREE LINES:
THIS COURSE COVERS THE CREATION OF NEW MEDIA ARTWORK AND THE USE OF CREATIVE CODING. WE WILL BE EXPLORING THE ARTISTS THAT UTILIZE CODE, THE SIGNIFICANCE OF THIS WORK, AND HOW THEIR WORK HAS BEEN CREATED. AS PART OF OUR EXPLORATION WE WILL BE DESIGNING HARDWARE AND SOFTWARE WITH THE GOAL OF EXHIBITING THIS WORK AS INTERACTIVE ART.

PREREQUISITES *:	COREQUISITES*:	REGISTRATION CONTROLS (MAJOR, COLLEGE, LEVEL)*:
NONE	NONE	GRADUATE LEVEL

* *PREREQUISITES, COREQUISITES AND REGISTRATION CONTROLS WILL BE ENFORCED FOR ALL COURSE SECTIONS.*

MINIMUM QUALIFICATIONS NEEDED TO TEACH THIS COURSE: INSTRUCTOR, M.F.A OR PHD

Faculty contact, email and complete phone number:	Please consult and list departments that might be affected by the new course and attach comments. N.A.
Mark Franz, mfranz2@fau.edu, 317-363-5008	

Approved by:	*Date:*
Department Chair:	12/6/13
College Curriculum Chair:	12/19/13
College Dean:	1/16/14
UGPC Chair:	2/26/14
Graduate College Dean:	3/2/14
UFS President:	
Provost:	

1. **Syllabus** must be attached; see guidelines for requirements: *www.fau.edu/provost/files/course syllabus.2011.pdf*
2. Review **Provost Memorandum: Definition of a Credit Hour** *www.fau.edu/provost/files/Definition Credit Hour Memo 2012.pdf*
3. **Consent** from affected departments (attach if necessary)

Email this form and syllabus to *UGPC@fau.edu* **one week before** the University Graduate Programs Committee meeting so that materials may be viewed on the UGPC website prior to the meeting.

Class: DIG-6551 Programming for Interactivity
Day and Time: Monday, 6:00pm to 9:50pm
Room: ES 401
Department: Communication and Multimedia Studies
Term: Fall 2014
Credit Hours: 4

Professor: Mark Franz, MA, MFA
Contact Info: mfranz2@fau.edu
Phone: 312-361-0345
Office Hours:
(M) 4:00PM – 6:00PM
(TR) 12:00AM – 1:00PM, 3:00PM – 4:00PM
or by appointment
Office Location: LA 414

Course Objectives:
Students in this course will develop a critical understanding of the history and theory of media artwork, and learn how it is created. By the end of this course, students will have experience with the fields of user experience design, interaction design, and physical computing. These fields will provide the basis for learning various techniques for developing interactive hardware and software.

Course Description:
This course covers the creation of new media artwork and the use of creative coding. We will be exploring the artists that utilize code, the significance of this work, and how their work has been created. As part of our exploration we will be designing hardware and software with the goal of exhibiting this work as interactive art.

Required Hardware:
Raspberry Pi and peripherals

Required Texts:
Form + Code
Programming the Raspberry Pi

Recommended Texts:
Raspberry Pi User Guide
Getting Started with Raspberry Pi

Grades:
Attendance 20%
Assignments 40%
Midterm 20%
Final project 20%

Description of Final Project:
Using one of the techniques for developing interactive hardware and software covered in this course, create an original new media artwork that embodies at least one of the concepts we have studied relating to form and code: repeat, transform, parameterize, visualize, and simulate. In addition, write a 3-5 page paper discussing the concept you have chosen, and how it relates to the form and code created for your project.

Grading Scale:

A: 93% +
A-: 90%-92%
B+: 87%-89%
B: 83%-86%
B-: 80%-82%
C+: 77%-79%
C: 73%-76%
C-: 70%-72%
D+: 67%-69%
D: 63%-66%
D-: 60%-62%
E: 59% or worse

Attendance and Late Work:
Students are expected to attend all class sessions, come prepared to show their work, and actively discuss other student's work.

Late arrivals and/or failure to bring completed work = one absence
3 absences = loss of a letter grade

Course Materials
Sketchpad
An external hard drive is strongly recommended.

Week 1

- Syllabus and Introductions
- Introduction to interaction design http://hoverstat.es/
- HTML, CSS, and PHP
- **Assignment:** Familiarize yourself with Wordpress. Create a small presentation for week 2 about your work and creative interests.

Week 2

- The Algorithm
- Assumptions, Decisions, Modules
- Languages for Creative Coding
- **Assignment:** Read the Introduction and Chapter 1: What is Code? in Form + Code in Design, Art, and Architecture.

Week 3

- Introduction to Raspberry Pi
- Linux
- Choosing a Distribution
- Configuring
- **Assignment:** Configure your raspberry pi. Read Chapter 2: Form and Computers in Form + Code in Design, Art, and Architecture

Week 4

- Modules, Classes, and Methods
- Object Orientation
- **Assignment:** Write a custom python application. Read Chapter 3: Repeat in Form + Code in Design, Art, and Architecture.

Week 5

- Reading and Writing Files
- GUI in Python
- **Assignment:** Continue working on python applications. Read Chapter 4: Transform in Form + Code in Design, Art, and Architecture.

Week 6

- Pygame
- Events and Inputs
- Sprites
- **Assignment:** Create a custom Pygame application. Read Chapter 5: Parameterize in Form + Code in Design, Art, and Architecture.

Week 7

- Work Time
- Midterm Critique

Week 8

- Timing
- More on Pygame
- **Assignment:** Continue working on Pygame applications. Read Chapter 6: Visualize in Form + Code in Design, Art, and Architecture.

Week 9

- Critique and Work time
- **Assignment:** Finalize interactive video pieces. Read Chapter 7: Simulate in Form + Code in Design, Art, and Architecture.

Week 10

- Basic Inputs and Outputs
- Timers
- Working with custom hardware
- **Assignment:** Integrate hardware into python applications

Week 11

- GPIO Pin Connections
- Video Input
- Computer vision
- **Assignment:** Continue integrating hardware with your applications

Week 12

- Expansion Boards
- Prototyping Boards
- **Assignment:** Finalize python/raspberry pi based interactive installation

Week 13

- Critique
- In class work Time
- **Assignment:** Fabrication for interactive interfaces.

Week 14

- Class Critique
- **Assignment:** Final projects.

Week 15

- In class work time
- In seat Critique

Week 16

- In class work time
- In seat Critique

Monday Dec. 9th

- 7:00PM – 9:30PM
- Exhibition of final projects

Students with disabilities:
In compliance with the Americans with Disabilities Act (ADA), students who require reasonable accommodations due to a disability to properly execute coursework must register with the Office for Students with Disabilities (OSD) -- in Boca Raton, SU 133 (561-297-3880); in Davie, LA 240(954-236-1222); in Jupiter, SR 110 (561-799-8010); or at the Treasure Coast, CO 117 (772-873-3441) – and follow all OSD procedures.

Academic Honesty and Plagiarism:
Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty, including cheating and plagiarism, is considered a serious breach of these ethical standards, because it interferes with the University mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the University community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see http://www.fau.edu/regulations/chater 4/4.001_Honor_Code.pdf