Creative Computing

Parsons The New School for Design
School of Art, Media and Technology
Fall 2015

PUCD 2035 / CRN 5727
Fridays, 12:10–2:50 PM
6 East 16th Street, Room 609

Brendan Griffiths
griffitb@newschool.edu
http://creativecomputing.xyz

Course Description

Creative Computing is designed to introduce students to programming as a creative medium—as a way of making and exploring. The coursework focuses on developing a vocabulary of interaction design principles that can then be applied across a range of platforms, rather than focusing on one specific programming language or framework. Students are encouraged to experiment with various media, tools, and techniques, ultimately producing a portfolio of interactive and visual projects designed for the screen. An emphasis is placed on research-based problem solving and a “learning through making” approach to technical skill building.

Course Outline

Below is a rough outline of the semester, subject to change.

Week	Date	Topic, Activity, and Assignments
1	**9/4**	**Introduction / Basics / Working Environment** What is a computer? **Assignment: Do What?** **Reading: Louis Kaplan, The Telephone Paintings: Hanging Up Moholy**
2	**9/11**	**What is a programming language? What is HTML? What is CSS?** Introduction to our online IDE (Cloud 9) Building your first webpage **Due: Do What?**

Assignment: Do What? Documentation
Assignment: Homepage
Reading: Sol LeWitt, Paragraphs on Conceptual Art

3 **9/18** **Programmatic Form-Making**
CSS as a Drawing Tool
Due: Do What? Documentation
Assignment: Composition
Reading: Alexander Galloway, Protocol

4 **9/25** **Why JavaScript? Syntax, operators, variables, data types**
Introduction to JS, using JS to make form, modifying CSS on the fly
Due: Composition
Assignment: Drawing-by-wire
Reading: Dan Michaelson, On Exactitude in Science

5 **10/2** **Logic patterns, loops**
Understanding programming fundamentals as they relate to JS
Due: Drawing-by-wire sketches
Exercise: JS Pattern Generator
Reading: Wikipedia, HTTP 404

6 **10/9** **Troubleshooting, the browser, the DOM**
How to research and solve problems related to your code
Due: JS Pattern Generator

7 **10/16** **Drawing libraries in JS**
Introduction to p5.js, overview of alternatives (Paper.js, etc.)
Due: Drawing-by-wire check-in

8 **10/23** **The Internet of Things**
Overview of connected devices and how we might interface with them
Due: Drawing-by-wire
Assignment: Input/Output
Reading: Paul Elliman, Token Resistance

9 **10/30** **External Data, Media, and APIs**
Interfacing with and using external media in your projects
Due: Input/Output sketches
Reading: Corey Archangel, On Compression

10 **11/6** **Sharing and Forking**
Sharing and reading your classmates (and others) code

11 11/13 Work Session
Work session to resolve any outstanding technical issues with the Input/Output assignment

12 11/20 Input/Output Critique
Due: Input/Output
Assignment: Nonlinear Narrative
Reading: Daniel van der Velden, Research and Destroy

- 11/27 No class (Thanksgiving)

13 12/4 Work Session
Due: Nonlinear Narrative sketches

14 12/11 Work Session
Work session to resolve any outstanding technical issues with the Nonlinear Narrative assignment

15 12/18 Final Critique: Nonlinear Narrative

Learning Outcomes

By the successful completion of this course, students will be able to:

- Demonstrate knowledge of fundamental programming concepts
- Develop several visual & interactive projects
- Objectively present their design process and workflow
- Integrate a variety of media elements into their projects
- Problem solve with other students through reading other students' code
- Demonstrate the ability to research and learn unfamiliar technical topics.
- Concept projects that use code in a creative way

Assessable Tasks

Assignment 1: Do What?
Write a program using the English language which produces a composition via a set of instructions. Your instructions should be simple enough that they could be executed by any of your classmates within the context of the classroom. Your resulting composition should be something that you find beautiful. Execute your program at least three times before we meet

again. Consider how the final output might vary (or not) depending on how your program is written. *Due 9/11*

Assignment 2: Composition
Using the HTML elements we discussed in class, create a formal composition that you find beautiful. Each element should be used at least ten (10) times. How can you utilize elements about the web to emphasize emotions or convey ideas? What ideas and interactions are unique to the web? In what ways can use the language of the web to convey these ideas? Consider how the composition changes while the user scrolls and resizes the browser. *Due 9/25*

Assignment 3: Drawing-by-wire
Using a combination of HTML, CSS, and JavaScript, create a program which generates visual forms which change each time the program is run. *Due 10/23*

Assignment 4: Input/Output
Design a Program which takes textual input from the user and generates a dynamic output. Your program can use any combination of data types you like (string, number, etc.). Your program should run within the context of the Chrome console. Consider how your program changes as the input changes. Is it interesting? Is it beautiful? *Due 11/20*

Final Project: Nonlinear Narrative
Using the tools and techniques we have learned in class thus far, design and develop a website which tells a story in a nonlinear fashion. You can use, as a starting point, an existing text (for example, an article from The New Yorker or a work of fiction from your favorite author), a personal experience (for example, visiting a foreign country or a long walk through Central Park), a song, a film, a music video, etc. etc. Your website may reference, but should not be a direct transcription of, your source material. Consider how you can bring your unique perspective to the story, framing or recontextualizing the narrative for the web. *Due 12/18*

Final Grade Calculation

Assessment	**%**
In-class and Take-home Assignments	50%
Final Project	30%
In-class Participation and Attitude	20%

Required Reading

There is no specific textbook for the course, but I will occasionally assign readings that will be discussed the following week. Readings will be posted to the class website in PDF format.

Resources

A List Apart: http://www.alistapart.com
CSS Layout: http://learnlayout.com
Cloud9: http://c9.io
Codecademy: http://codecademy.com
Codrops CSS Reference: http://tympanus.net/codrops/css_reference
Dash: http://dash.generalassemb.ly
Discover Devtools: http://discover-devtools.codeschool.com
GitHub: http://github.com
HTML5 Boilerplate: http://html5boilerplate.com
JSBin: http://jsbin.com
jQuery: http://jquery.com
p5.js: http://p5js.org
Paper.js http://paperjs.org
Stack Overflow: http://stackoverflow.com
Sublime Text: http://sublimetext.com
W3Schools: http://w3schools.com

Materials and Supplies

Students are required to obtain a free account at GitHub (http://github.com) and bring a flash drive to class each week.

Grading Standards

A [4.0; 96–100%]
Work of exceptional quality, which often goes beyond the stated goals of the course

A- [3.7; 91 –95%]
Work of very high quality

B+ [3.3; 86–90%]
Work of high quality that indicates substantially higher than average abilities

B [3.0; 81–85%]
Very good work that satisfies the goals of the course

B- [2.7; 76–80%]
Good work

C+ [2.3; 71–75%]
Above-average work

C [2.0; 66–70%]
Average work that indicates an understanding of the course material; passable Satisfactory completion of a course is considered to be a grade of C or higher.

C- [1.7; 61–65%]
Passing work but below good academic standing

D [1.0; 46–60%]
Below-average work that indicates a student does not fully understand the assignments; Probation level though passing for credit

F [0.0; 0–45%]
Failure, no credit

Grade of W
The grade of W may be issued by the Office of the Registrar to a student who officially withdraws from a course within the applicable deadline. There is no academic penalty, but the grade will appear on the student transcript. A grade of W may also be issued by an instructor to a graduate student (except at Parsons and Mannes) who has not completed course requirements nor arranged for an Incomplete.

Grade of WF
The grade of WF is issued by an instructor to a student (all undergraduates and all graduate students) who has not attended or not completed all required work in a course but did not officially withdraw before the withdrawal deadline. It differs from an “F,” which would indicate that the student technically completed requirements but that the level of work did not qualify for a passing grade. The WF is equivalent to an F in calculating the grade point average (zero grade points), and no credit is awarded.

Grades of Incomplete
The grade of I, or temporary incomplete, may be granted to a student under unusual and extenuating circumstances, such as when the student’s academic life is interrupted by a medical or personal emergency. This mark is not given automatically but only upon the student’s request and at the discretion of the instructor. A Request for Incomplete form must be completed and signed by student and instructor. The time allowed for completion of the work and removal of the “I” mark will be set by the instructor with the following limitations:

Work must be completed no later than the seventh week of the following fall semester for spring or summer term incompletes and no later than the seventh week of the following spring semester for fall term incompletes. Grades of “I” not revised in the prescribed time will be recorded as a final grade of “WF” by the Office of the Registrar.

Divisional, Program and Class Policies

Responsibility
Students are responsible for all assignments, even if they are absent. Late assignments, failure to complete the assignments for class discussion and/or critique, and lack of preparedness for in-class discussions, presentations and/or critiques will jeopardize your successful completion of this course.

Participation
Class participation is an essential part of class and includes: keeping up with reading, assignments, projects, contributing meaningfully to class discussions, active participation in group work, and coming to class regularly and on time.

Attendance
Faculty members may fail any student who is absent for a significant portion of class time. A significant portion of class time is defined as three absences for classes that meet once per week and four absences for classes that meet two or more times per week. During intensive summer sessions a significant portion of class time is defined as two absences. Lateness or early departure from class may also translate into one full absence.

Canvas
Use of Canvas may be an important resource for this class. Students should check it for announcements before coming to class each week.

Delays
In rare instances, I may be delayed arriving to class. If I have not arrived by the time class is scheduled to start, you must wait a minimum of thirty minutes for my arrival. In the event that I will miss class entirely, a sign will be posted at the classroom indicating your assignment for the next class meeting.

Electronic Devices
Use of electronic devices (phones, tablets, laptops) is permitted when the device is being used in relation to the course's work. All other uses are prohibited in the classroom and devices should be turned off before class starts.

Academic Honesty and Integrity
The New School views “academic honesty and integrity” as the duty of every member of an academic community to claim authorship for his or her own work and only for that work, and to recognize the contributions of others accurately and completely. This obligation is fundamental to the integrity of intellectual debate, and creative and academic pursuits. Academic honesty and integrity includes accurate use of quotations, as well as appropriate and explicit citation of sources in instances of paraphrasing and describing ideas, or reporting on research findings or any aspect of the work of others (including that of faculty members and other students). Academic dishonesty results from infractions of this “accurate use”. The standards of academic honesty and integrity, and citation of sources, apply to all forms of academic work, including submissions of drafts of final papers or projects. All members of the University community are expected to conduct themselves in accord with the standards of academic honesty and integrity. Please see the complete policy in the Parsons Catalog.

It is the responsibility of students to learn the procedures specific to their discipline for correctly and appropriately differentiating their own work from that of others. Compromising your academic integrity may lead to serious consequences, including (but not limited to) one or more of the following: failure of the assignment, failure of the course, academic warning, disciplinary probation, suspension from the university, or dismissal from the university.

Student Disability Services (SDS)
In keeping with the University’s policy of providing equal access for students with disabilities, any student with a disability who needs academic accommodations is welcome to meet with me privately. All conversations will be kept confidential. Students requesting any accommodations will also need to meet with Jason Luchs in the Office of Student Disability Services, who will conduct an intake, and if appropriate, provide an academic accommodation notification letter to you to bring to me. SDS assists students with disabilities in need of academic and programmatic accommodations as required by the Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Federal Rehabilitation Act of 1973.
http://www.newschool.edu/studentservices/disability/.