
PARSONS SCHOOL OF DESIGN

Creative Computing PUCD 2035

Section F

CRN: 3649

Fall 2017

Tuesdays 7:00 pm

2 W 13th Room 300

Instructor: Robby Kraft, kraftr@newschool.edu

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 which can then be applied across a range of platforms. 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 typography as it applies to a screen context, research-based problem solving and a "learning through making" approach to technical skill building. Historical and current interaction design precedents will be discussed.

LEARNING OUTCOMES

Students will be able to:

- demonstrate knowledge of fundamental programming concepts
- develop several visual & interactive projects
- objectively preset their design process and workflow
- integrate a variety of media elements into their projects
- problem solve with other students, read other students' code
- demonstrate the ability to research and learn unfamiliar technical topics
- use code in a creative way
- research historic and current design precedents to contextualize their work
- recognize how interactive systems facilitate orientation, support usability, and create consistency

CLASS OVERVIEW

Class meets 15 times between August 29th and December 12th.

There will be ~7 homework assignments which will focus on a specific computing topic. At the end of the term there will be 1 final project of a subject and scope up to the student which should combine multiple topics learned in the term.

Weeks 1-3: Computing Fundamentals

In the first few weeks, students are introduced to general programming concepts and computing fundamentals through a variety of exercises both on paper and in digital form. An overview of contemporary software development and

deployment environments (a text editor, a web browser, an FTP server, etc.) provides a foundation upon which later assignments can be built.

Weeks 4–8: Markup and Style

Students will develop basic programs which programmatically generate form using contemporary front-end technologies (HTML and CSS). An emphasis is placed on typography as it applies to a screen context, including web fonts and CSS typesetting. Students will also be introduced to grid-based principles, as they apply to interactive media.

Week 9–11: Interaction, Media, and APIs

Students are introduced to dynamic interaction using JavaScript, and should explore common logic patterns and control flow within the language. External media and protocols are introduced to respond to more complex compositional or narrative-based assignments. Students should build on their understanding of fundamental programming concepts to create projects which respond dynamically to external input (user, data set, API, etc.). Students are also tasked with reading and modifying one another's code to better understand the languages and patterns learnt thus far.

Week 12–15: Bringing it Together / Final Project

A longer-form final project which builds on the languages and tools discussed thus far in the class. Projects can be self-initiated/proposal-based, or can respond to a set of parameters/framework provided by the instructor. The final project should demonstrate each student's ability to use programming to articulate their specific design process and outlook. Final projects should be published to the live web and documented for future reference.

W	DATE	IN CLASS	PROJECT
1	8/29	code as expression the languages of computers and humans	
2	9/5	printing press rich text, html, css, interpreters & compilers	code language
3	9/12	style nested containers, style sheets, full screen div	Mondrian
4	9/19	color rgb/hsl, vector and raster	
5	9/26	transforms coordinates, interaction, css transforms	Josef Albers
6	10/3	memory var, numbers and strings	
7	10/10	repeat loops, generative, javascript DOM interaction	poetry
8	10/17	drawing absolute positioning, dynamic content	drawing

9	10/24	time animations, screen savers, sine/cosine, random	classic screen saver
10	10/31	input human-computer interaction, event handler	
11	11/7	data read a file, visualize data, access APIs	calendar
12	11/14	generative bots, life, physics, noise, generate code	final project
—	—	—	—
13	11/28	material as relates to final projects	final project
14	12/5	material as relates to final projects	final project
15	12/12	student-led discussion	

READINGS

No book is required for this course, however excerpts of material listed below will be provided.

Bruno Munari, Design as Art
Muriel Cooper, New Graphic Languages
Bret Victor, A Brief Rant On The Future Of Interaction Design
Paul Ford, What is Code
Giorgia Lupi and Stefanie Posavec, Dear Data
Sol LeWitt, Paragraphs on Conceptual Art
New York Times, 201x The year in visual stories and graphics
Marc Andreessen, Why Software is Eating the World

MATERIALS, SOFTWARE

Every student should bring a laptop to class. A notepad and pen can be helpful too, there will be times spent with laptops closed.

Please download these free and cross-platform programs:

- Sublime Text
- Google Chrome
- Fetch (FPT software)

We will also be using Github. Please make an account if you don't already have one: <http://github.com>

GRADING STANDARDS

Attendance and participation 40%
In-class and Take-home Assignments 40%
Final Assignment 20%

A	Work of exceptional quality, which often goes beyond the stated goals of the course
A-	Work of very high quality
B+	Work of high quality that indicates higher than average abilities
B	Very good work that satisfies the goals of the course
B-	Good work
C+	Above-average work
C	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-	Passing work but below good academic standing Below-average work that indicates a student does not fully understand the assignments; Probation level though passing for credit
F	Failure, no credit

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.

Z

The grade of Z is issued by an instructor to a student 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.

I

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.

MAKING CENTER

The Making Center is a constellation of shops, labs, and open workspaces that are situated across the New School to help students express their ideas in a variety of materials and methods. We have resources to help support woodworking, metalworking, ceramics and pottery work, photography and film, textiles, printmaking, 3D printing, manual and CNC machining, and more. A staff of technicians and student workers provide expertise and maintain the different shops and labs. Safety is a primary concern, so each area has policies for access, training, and etiquette that students and faculty should be familiar with. Many areas require specific orientations or trainings before access is granted. Detailed information about the resources available, as well as schedules, trainings, and policies can be found at resources.parsons.edu. Faculty who are planning curriculum that makes use of specific resources should contact the Making Center in advance to coordinate.

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.

Submitting Work

Web-based assignments are due at 11:59PM on the night before class. Using Canvas, you will submit a URL for your project as well as a screenshot of it running in a browser. Physical assignments or presentations are due at the start of class. Late assignments will have 20 points deducted from their final grade.

Attendance

Parsons’ attendance guidelines were developed to encourage students’ success in all aspects of their academic programs. Full participation is essential to the successful completion of coursework and enhances the quality of the educational

experience for all, particularly in courses where group work is integral; thus, Parsons promotes high levels of attendance. Students are expected to attend classes regularly and promptly and in compliance with the standards stated in this course syllabus.

While attendance is just one aspect of active participation, absence from a significant portion of class time may prevent the successful attainment of course objectives. A significant portion of class time is generally defined as the equivalent of three weeks, or 20%, of class time. Lateness or early departure from class may be recorded as one full absence. Students may be asked to withdraw from a course if habitual absenteeism or tardiness has a negative impact on the class environment.

Whether the course is a lecture, seminar or studio, faculty will assess each student's performance against all of the assessment criteria in determining the student's final grade.

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

The use of electronic devices (phones, tablets, laptops, cameras, etc.) 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

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.

Students are responsible for understanding the University's policy on academic honesty and integrity and must make use of proper citations of sources for writing papers, creating, presenting, and performing their work, taking examinations, and doing research. 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. The full text of the policy, including adjudication procedures, is found at

<http://www.newschool.edu/policies/#> Resources regarding what plagiarism is and how to avoid it can be found on the Learning Center's website: <http://www.newschool.edu/university-learning-center/student-resources/>

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.

Intellectual Property Rights : <http://www.newschool.edu/policies/#>