Parsons School of Design
School of Art, Media and Technology
MFA Design + Technology
PGTE 5250 Creativity and Comp Lab; CRN 2028
Fall 2019

6 East 16th St., Room 1204A
Thursdays 7:00-9:40 PM, Fall 2019

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Course Description
As an introductory course, we will build upon the Bootcamp curriculum towards exploring the basics of computation in the service of art and design. We will introduce concepts of Physical Computing with basic electronics and fundamentals of electricity, and introduce the p5.js creative coding platform. The semester will conclude with an instructor driven, project based workshop in generative and procedural sound.

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

1. Demonstrate understanding of basic electronics and basic principles of electricity though building functioning electronic circuits.
2. Demonstrate an understanding of the iterative making process as relates to code or physical computing, using incremental methods such as prototyping and testing to build toward more advanced work
3. Demonstrate an ability to understand the basic use of APIs in creating networked systems.
4. Develop a conceptual model for how interactive systems are built using heterogeneous resources and technology.
5. Be able to archive and document technical work in a demonstrative and reflective manner for presentation and referencing

Assessable Tasks
Weekly sketches: Weeks 1-4, 6-9, 11-14
Module reviews: Weeks 5, 10, 15
In class share outs: Weeks 5, 10, 15

Evaluation and Final Grade Calculation

Active Participation / Attendance	20%
Coursework documentation	20%
Module 1	20%
Module 2	20%
Module 3	20%
TOTAL	100%

Student Responsibilities

1. Treat class time as an opportunity.
2. Arrive to class on time, with all materials, ready to work steadily throughout the studio.
3. Be prepared with all your required materials for every class.
4. Complete assignments and readings on time.
5. Participate in class discussions and critiques. **LAPTOPS DOWN** when other students are demonstrating their work.
6. Confront difficulties in your work in the spirit of learning, creative exploration and personal growth.
7. Ask for help from your instructors when needed.
8. Respect your fellow students at all times.
9. Disruptive behavior is not tolerated.
10. You are responsible for cleaning up after yourself at the end of each class.
11. No personal usages of phones and laptops are allowed in class.

Asking Questions in Class

- Will you repeat the last thing you said?
- Could you do another example?
- Could you go through that again, slower?
- Will you explain that a different way?
- Can you explain that word “blah” you said?
- Can you please speak a little slower?

Getting Help Outside of Class

Online

- Use the Canvas help discussion board. Asking a question publicly may help your peers as well.
- Email me at nathankoch@newschool.edu

In Person

- University Learning Center - one-on-one tutoring @ 66 West 12th Street, 6th floor
- Office Hours. Part-time faculty in general don’t have set office hours. Feel free to email me and we can look for a time to set something up.. Overall my availability is limited, and the best time to set up a meeting is on D12 before class.

Course Outline

Outline the course topics, activities, assignments, readings, etc. to be covered during the semester. Check the academic calendar. You may also wish to see the Class Session Dates document for dates by days-of-the-week -see tabs for templates, by day.

WEEK 1	08/29	Introduction, Syllabus Handed Out Start Module 1: Principles of Electricity and Basic Electronics. Building simple electronic circuits. Introduction to electrical schematics.	Sketch of the week: Identify items in your everyday environment that are conductors, insulators, and possible resistors. Bring your questions to next week's class.
WEEK 2	09/06	Continue with Module 1: Analog electronics: 555 Timer circuits. Electrical schematics continued.	Sketch of the week: Working in pairs or groups create "schematic flashcards" and test each other's familiarity with electrical symbols. Have fun with this! Keep score and report back on everyone's performance.
WEEK 3	09/12	Continue with Module 1: Soldering fundamentals	Sketch of the week: Integrate your chosen 555 Timer circuit into an interface/object. Use soldering to extend the length of wires/fit components into the form you create.
WEEK 4	09/19	Continue with Module 1: Sketch share: Demo and discussion.	Sketch of the week: Swap sketches with a classmate. Revise their work and build upon their sketch to create a new sketch.
WEEK 5	09/26	Conclusion of Module 1: In class demo: An interactive system comprised of sensors, microcontroller, networked communication, and screen based application (Sensors connected to Arduino sending serial data to p5.js)	Module in review: Write a short reflective paragraph summarizing Module 1. Include both your successes and concerns. Read Chapter 1 of Form and Code and write a short response about it.
WEEK 6	10/03	**NO CLASS: Festival of New**	Write a short response about one thing you did/learned at the festival.
WEEK 7	10/10	Start Module 2: Networked Ontologies and Computational Aesthetics. Introduction to p5.js. *look at and discuss the p5.js Code of Conduct.	Sketch of the week: Create your first sketch in p5.js. Read Chapter 2 of Form and Code and write a short response about it.
WEEK 8	10/17	Continue with Module 2: APIs in p5.js Administer Mid Term Evaluations	Sketch of the week: Use the weather API to create a software sketch.

			Read Chapter 3 of Form and Code and write a short response about it.
WEEK 9	10/24	Continue with Module 2: Signal processing and parsing data.	Sketch of the week: Using a data source create a sketch that parses data or attenuates signal into meaningful information. Read Chapter 4 of Form and Code and write a short response about it.
WEEK 10	10/31	Continue with Module 2: Databases/spreadsheets in p5.js Conclusion of Module 2: Presentation of work	Module in review: Write a short reflective paragraph summarizing Module 2. Include both your successes and concerns
WEEK 11	11/07	Start Module 3: Instructor-lead artist workshop in an area related to Design + Technology An introduction to generative and procedural art and design.	Install necessary software. Small reading and listening assignments, with a one paragraph reaction.
WEEK 12	11/14	Continue with Module 3 Sound synthesis in hardware and software.	Use a synthesizer tutorial to create and share some new sounds. Small reading and listening assignments, with a one paragraph reaction.
WEEK 13	11/21	Continue with Module 3 Generative sound in practice; example work from Cage to Eno.	Write a paragraph of intent for final project.
WEEK 14	12/05	Continue with Module 3 The tools of generative sound, a survey of software like Max/MSP, SuperCollider, ChuCK, and p5.sound. 20 minutes at the end of class for course evaluations.	Record a two minute generative sound piece, and revise paragraph of intent.
WEEK 15	12/12	Last Class Conclusion of Module 3: Share/perform results of workshop	Module in review: Write a short reflective paragraph summarizing Module 3. Include both your successes and concerns

Readings

The required style guide for all Parsons classes is the Chicago Manual of Style:

- Turabian, Kate. A Manual for Writers of Term Papers, Theses and Dissertations. 7th ed. Chicago: University of Chicago Press, 2007.
- **All About Electronics Textbook** (online): https://www.allaboutcircuits.com/textbook/
- **p5.js** website: https://p5js.org/
- Module 3 readings will be assigned closer to the end of the semester. Reading materials will be supplied.

Supplemental Reading

- **Getting Started with p5.js**, Lauren McCarthy, Casey Reas, and Ben Fry
  Published October 2015, Maker Media. 246 pages. Paperback.
- **The Art of Electronics** (3rd ed.). Paul Horowitz and Winfield Hill. 2015. Cambridge University Press, New York, NY, USA.

Materials and Supplies
A set of basic materials for the course will be provided. These materials are loaned to students and should be returned at the end of the semester. Any additional materials students might want to work with will be the responsibility of students to acquire.

Resources
The university provides many resources to help students achieve academic and artistic excellence. These resources include:

- The University (and associated) Libraries
- The University Learning Center
- University Disabilities Service

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 contact Student Disability Service (SDS). SDS will conduct an intake and, if appropriate, the Director will provide an academic accommodation notification letter for you to bring to me. At that point, I will review the letter with you and discuss these accommodations in relation to this course.

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 with which students and faculty should be familiar. 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.

Grading Standards

Graduate

A	Work of exceptional quality
A-	Work of high quality
B+	Very good work
B	Good work; satisfies course requirements
	Satisfactory completion of a course is considered to be a grade of B or higher.
B-	Below-average work
C+	Less than adequate work
C	Well below average work
C-	Poor work; lowest possible passing grade
F	Failure
GM	Grade missing for an individual

Grades of D are not used in graduate level courses.

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.

Grade of Z
This grade is to be assigned to students who have **never attended or stopped attending** classes. Exceptions can be made if the student has completed enough work to warrant a grade (including a failing grade), and arrangements have been made with the instructor(s) and the Dean's Office prior to grade submission. The Z grade does not calculate into the student's GPA.

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:

Graduate students: Work must be completed no later than one year following the end of the class. Grades of "I" not revised in the prescribed time will be recorded as a final grade of "N" by the Registrar's Office.

College, School, Program and Class Policies
A comprehensive overview of policy may be found under Policies: A to Z. Students are also encouraged to consult the Academic Catalog for Parsons.

Guidelines for Studio
Assignments Work from other visual sources may be imitated or incorporated into studio work if the fact of imitation or incorporation and the identity of the original source are properly acknowledged. There must be no intent to deceive; the work must make clear that it emulates or comments on the

source as a source. Referencing a style or concept in otherwise original work does not constitute plagiarism. The originality of studio work that presents itself as "in the manner of" or as playing with "variations on" a particular source should be evaluated by the individual faculty member in the context of a critique. Incorporating ready-made materials into studio work as in a collage, synthesized photograph or paste-up is not plagiarism in the educational context. In the commercial world, however, such appropriation is prohibited by copyright laws and may result in legal consequences.

Open Source Policy

You are encouraged to work in groups, but unless otherwise specified you must turn in your own work. Copying/pasting and reusing code is a key part of the programming process, especially while learning. You often learn best by modifying working examples rather than starting from scratch. We stand on the shoulders of giants; that's the essence of the open source philosophy. However, there is a very important caveat: any code you borrow and/or modify must be labeled as such. That is, you must include, in your work, the name of the author, the source URL, and you must make clear which lines of code are not yours. If you fail to do this, you will fail the class. It is very, very easy to get this right, though, so if you take a moment's time to label your work correctly, you will not have a problem. Just be diligent and honest.

Canvas

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

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.

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.

Active Participation and Attendance

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.

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.

I will assess each student's performance against all of the assessment criteria in determining your final grade.

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 on the university website under Policies: A to Z. Resources regarding what plagiarism is and how to avoid it can be found on the Learning Center's website.

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

The New School (the "university") seeks to encourage creativity and invention among its faculty members and students. In doing so, the University affirms its traditional commitment to the personal ownership by its faculty members and students of Intellectual Property Rights in works they create. The complete policy governing Intellectual Property Rights may be seen on the university website, on the Provost's page.