The New School
**Parsons School of Design**
School of Art, Media, and Tech
PUDT 3101, Section A
Core Lab Systems: CT
CRN 3047
Monday & Wednesday, 4:00pm–6:40pm
6 East 16th Street, Room 1208

# Fall 2025 Course Syllabus

## Complete Syllabus Overview

## Instructor Information

Matthew Kaney (he/him)
kaneym@newschool.edu
Available for consultation Wednesday 2:00pm–4:00pm or by appointment

## Course Website

https://pudt3101a-fall2025.github.io/, hosted on GitHub Pages

## Course Description

This course provides production and coding skills for projects involved in Core Studio: DT3 - Systems. Students will expand their understanding of acquiring and processing data sets. They will learn about form, function and techniques for developing virtual and physical networked systems, interactive environments, objects and processes.

Primary technical subjects include creating and publishing web content using HTML, CSS, and Javascript; working with data APIs; and project documentation.

Beyond the technical skills covered, we will pay attention to the following themes as they relate to the internet as a system, the building blocks that it is comprised of, and coding as a practice:

- Naming
- Representation
- Structure and hierarchies
- Absence and uncertainty
- Transparency and opaqueness
- Accessibility

We will ask:

- What can we do to nurture an inclusive, critical, and caring web development practice?
- What are the social, historical, and political contexts of the tools and technologies used for web development?
- What are the political implications of various data schemas?

## Community Agreement

On the first day of class, we will generate our class community agreement. This is a living document and you can add or comment on it any time during the semester. We will revisit the agreement as a class after midterm.

## Statement of Equity, Inclusion and Social Justice

As students, artists, designers, educators, and cultural producers, we must acknowledge the lineages of white supremacy, racial discrimination, and other forms of systemic oppression that exist within our society in the U.S. and abroad. In the School of Art, Media & Technology (AMT), we are committed to creating a more inclusive, equitable and anti-racist community. We aim to support and advocate for the needs of all AMT students, staff and faculty across all identities of race, gender, sexual orientation, disability, age, religion, culture, citizenship, or socio-economic status. We will stand in solidarity with marginalized communities who have been historically excluded from institutions, including Black, Indigenous, Latinx, AAPI (Asian, Asian American and Pacific Islander), People of Color, Queer, and Trans folks, and aim to center their narratives and practices within our learning environment. We recognize the limitations of language that can't envelop the breadth of all intersectional identities, and as such, we are committed to advancing equity, respect, and thoughtfulness within our teaching pedagogy, curriculum, classrooms and across AMT.

## Land Acknowledgement

We would like to acknowledge the Lenape, who are the original inhabitants of Lenapehoking and the island of Mannahatta. The land The New School University is built upon, including all of New York City, present-day New Jersey and eastern Pennsylvania along the Delaware River watershed, western Long Island, and the Lower Hudson Valley, comprise Lenape ancestral homeland. This land was not ceded nor sold, as folklore would have us believe, to the Dutch for beads and trinkets.

This land was forcibly taken through occupation by European settlers, resulting in displacement, forced migration, and genocide. In the present day there are Lenape communities throughout North America, though much of the original Lenape territory remains under settler occupation and control.

We are going to spend this semester looking at, using, critiquing, and building the internet. Everst Pipkin encourages us to remember "how profoundly land theft is tied into communications technology in the United States, with the colonial project of the railroad directly turning into telegraph, then telephone, then internet backbone. the internet is grounded in indigenous land."

References:

- [Manahatta to Manhattan, Native Americans in Lower Manhattan](#)
- [True Native New Yorkers Can Never Truly Reclaim Their Homeland](#)
- [Men of Steel: How Brooklyn's Native American Ironworkers built New York](#)
- [Native Land Digital](#)

# Learning Outcomes

CT Systems Studio and CT Systems Lab are part of the core Creative Technology curricular track. You can see an overview of the track curriculum at [bit.ly/DTINFO](#).

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

- Deepen their web coding, design, and publishing skills.
- Work comfortably with HTML, CSS, and JavaScript including third-party JavaScript libraries.
- Be familiar with web development in the context of web frameworks such as React.js and JavaScript server code.
- Understand how web technologies, tools, and services work as a system.
- Explicitly connect technical skills, studio practice, social engagement, and critical context.

# Assessable Assignments

Lab sessions will introduce students to technical techniques and concepts across five units. Each unit concludes with a small lab-specific project built around the topic of that unit. Each assignment will have a design brief and opportunities for creative interpretation but will be graded based on the technical aspects of its underlying implementation. Projects should be submitted with three parts: a code repository on GitHub, a working version of the project hosted online, and a code walkthrough as described below. All projects should be submitted as links or files to Canvas.

The final project, Future as Systems, will be assigned in both Lab and Studio, but will receive a separate grade in each course. The grade given by the Lab instructor will be based on the technical merit and approach of the project, while the Studio grade will be based on the conceptual and creative rigor.

In addition, we will have in-class discussions activities and students will be assigned resources to read in order to come to class prepared. Students are expected to participate and this will factor into their meaningful participation grade.

# Evaluation and Final Grade Calculation

The five initial assignments are each worth 13 points, 10 points for technical merit and 3 points for the code walkthrough. The final project will be graded on technical merit and approach. The instructor will be evaluating the technical aspects of projects with the following considerations in mind:

- Does the code demonstrate understanding of the concepts presented in class?

- Is the code well-commented?
- Does the code avoid unnecessary repetition?
- Is the project logically organized, both in terms of files and also code within files?
- Does the code work?
- Is the approach well thought out?

## Code Walkthroughs

Software development is not just the ability to write working code but also to develop an intuitive sense of how that code works and how individual components fit into a coherent architecture. Particularly as generative AI becomes better at writing usable code, this understanding is necessary for shaping a software project into something that remains resilient as it scales and becomes more complex.

Engineers need this knowledge so that they can judge how new components should be integrated, identify bugs and issues ahead of time, and effectively communicate technical capacities to other stakeholders. In addition, thinking critically about how software functions is especially important for artists and designers—code is their raw material, and the technical decisions they make become aesthetic and conceptual dimensions of the final work.

To that end, each of the five lab assignments will have a code walkthrough component worth 3 points. This can take the form of a short screen recording where students show off the code files from their assignment and narrate what the different parts do. We'll look at examples of how to do this and brainstorm other possible approaches as a class. It's not important for these to be polished presentations and students are encouraged to think out loud. Walkthroughs will be graded on how well they demonstrate the student's critical engagement with the organization and functionality of their projects.

## Meaningful 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 attending sessions regularly and on time.

The 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 meaningful 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 absence or tardiness has a negative impact on the class environment.

I will assess each student's performance according to all of the assessment criteria specified in this syllabus in determining your final grade.

# Grade Breakdown

| | |
|---|---|
| Meaningful Participation / Attendance | 15% |
| Assignment 1 | 13% |
| Assignment 2 | 13% |
| Assignment 3 | 13% |
| Assignment 4 | 13% |
| Assignment 5 | 13% |
| Final Project | 20% |
| TOTAL | 100% |

The technical merit of assignments will be graded according to the following five criteria:

| Criteria | 0 points | 1 point | 2 points |
|---|---|---|---|
| **Understanding of Concepts** | Minimal evidence of understanding; code mostly copied or misuses concepts. | Some concepts applied correctly, but with gaps or misunderstandings. | Strong, consistent use of class concepts; shows comprehension and initiative. |
| **Code Comments** | Few or no comments; unhelpful or unclear. | Some comments, but uneven in detail or clarity. | Clear, consistent comments that explain logic and choices. |
| **Avoiding Repetition (DRY)** | Significant duplication; little attempt to consolidate repeated logic. | Some repetition avoided, but inconsistently. | Code effectively minimizes repetition through functions, components, or other structures. |
| **Logical Organization** | Code is disorganized; hard to follow. | Some structure is present, but uneven or confusing in places. | Cleanly structured, readable, and logically organized throughout. |
| **Functionality & Thoughtfulness** | Code does not run or fails major requirements; approach seems improvised. | Code runs with some errors or missing features; approach works but could be refined. | Code runs smoothly and meets all requirements; approach is well-considered and intentional. |

# Course Readings, Materials, and Technology Requirements

## Readings

Students are not required to purchase any reading materials. Online tutorials and links to references and readings will be posted to the class website.

## Materials, Supplies, and Technology

All the tools we'll be using in this course are free, open source, and should run on any modern operating system. The primary tool we'll be using in a code editor. [Visual Studio Code](#) is recommended, but students are free to use any other tool that has good support for editing JavaScript files and running command line commands.

In addition, students will be required to have a [GitHub account](#) for collecting project code and for hosting websites. Later projects with more complex technical requirements may need to be hosted elsewhere—many hosting platforms have free tiers that are sufficient for class projects, and we'll discuss options as needed.

Students are expected to bring laptops and chargers to every class as well as a sketchbook and writing utensils.

On **October 13th and 15th**, class will be meeting over Zoom. For that week, students will need to have access to a computer with Zoom installed and sufficient internet bandwidth.

## Use of Generative Artificial Intelligence (AI) Tools.

Generative AI tools, particularly Large Language Models (LLMs) such as ChatGPT, have been trained on vast quantities of open-source software and code examples and have become very good at generating functional code, particularly for common cases such as web development. When using these tools, it's important to remember that LLMs are optimized to produce code that looks plausible or resembles existing approaches rather than code that is intrinsically well-designed. Students may use AI tools for generating code, but they are fully responsible for the quality and inventiveness of their code. In addition, when using AI, **students must do the following**:

- Interrogate the code they've produced, making sure they understand its functionality and question the model's assumptions
- Meaningfully edit, modify, and improve the code by themselves, pushing it in creative directions and ensuring that everything is well-organized
- Describe the contributions of the AI tool in code comments or a Readme file, as well as the innovations made by the student just as they would do with code pulled from other sources

In addition, we'll be requiring code walkthroughs as part of each project and doing in-class exercises where we talk through code and live code. Student understanding of the technical underpinnings of their projects is crucial and will inform all aspects of grading.

# Course Outline

| WEEK 1 | 08/27 Wed | **Introductions**<br>● Introductions<br>● Syllabus Review<br>● Community Agreements |
|---|---|---|
| WEEK 2 | 09/02 Mon | ***NO CLASS (Labor Day)*** |
| | 09/03 Wed | **Unit 1: HTML, CSS, CSS Grid**<br>In Class<br>● HTML, CSS Review |
| WEEK 3 | 09/08 Mon | **Unit 1: HTML, CSS, CSS Grid**<br>In Class<br>● HTML, CSS Review Continued<br>● Github, Command Line |
| | 09/10 Wed | **Unit 1: HTML, CSS, CSS Grid**<br>In Class<br>● CSS Grid |
| WEEK 4 | 09/15 Mon | **Unit 1: HTML, CSS, CSS Grid**<br>In Class<br>● Debugging, Group coding |
| | 09/17 Wed | **Unit 1: HTML, CSS, CSS Grid**<br>In Class<br>● Work Time |
| WEEK 5 | 09/22 Mon | **Unit 2: Static Site Generator**<br>Due:<br>● Assignment 1: Collage<br>In Class<br>● Internet + Web<br>● Intro to Assignment 2: Collection |
| | 09/24 Wed | **Unit 2: Static Site Generator**<br>In Class<br>● Introduction to Node.js |
| WEEK 6 | 09/29 Mon | **Unit 2: Static Site Generator**<br>In Class<br>● Introduction to Eleventy.js |
| | 10/01 Wed | **Unit 2: Static Site Generator**<br>In Class<br>● Templates<br>● Deployment |
| WEEK 7 | 10/06 Mon | **Unit 2: Static Site Generator**<br>In Class<br>● Debugging<br>● Group Coding |
| | 10/08 Wed | **Unit 2: Static Site Generator**<br>In Class<br>● Work Time |
| WEEK 8 | 10/13 Mon | **Unit 3: React.js *(VIRTUAL ON ZOOM)*** |

| | | |
|---|---|---|
| 8 | | Due:<br>　● Assignment 2: Collection<br>In Class<br>　● Intro to React<br>　● Intro to Assignment 3: Interactive Archive |
| | 10/15 Wed | **Unit 3: React.js** *(VIRTUAL ON ZOOM)*<br>In Class<br>　● React.js |
| WEEK 9 | 10/20 Mon | **Unit 3: React.js**<br>In Class<br>　● React.js |
| | 10/22 Wed | **Unit 3: React.js**<br>In Class<br>　● React.js |
| WEEK 10 | 10/27 Mon | **Unit 3: React.js**<br>In Class<br>　● Debugging<br>　● Group Coding |
| | 10/29 Wed | **Unit 3: React.js**<br>In Class<br>　● Work Time |
| WEEK 11 | 11/03 Mon | **Unit 4: Node.js, Web RTC**<br>Due:<br>　● Assignment 3: Interactive Archive<br>In Class<br>　● Intro to Web RTC<br>　● Intro to Assignment 4: Collaborative |
| | 11/05 Wed | **Unit 4: Node.js, Web RTC**<br>In Class<br>　● Node.js<br>　● Web RTC |
| WEEK 12 | 11/10 Mon | **Unit 4: Node.js, Web RTC**<br>In Class<br>　● Node.js<br>　● Web RTC |
| | 11/12 Wed | **Unit 4: Node.js, Web RTC**<br>In Class<br>　● Node.js<br>　● Web RTC |
| WEEK 13 | 11/17 Mon | **Unit 4: Node.js, Web RTC**<br>In Class<br>　● Debugging<br>　● Group Coding |
| | 11/19 Wed | **Unit 4: Node.js, Web RTC**<br>In Class<br>　● Work Time |
| WEEK 14 | 11/24 Mon | **Unit 5: Data Visualization**<br>Due<br>　● Assignment 4: Collaborative<br>In Class<br>　● Intro to Chart.js<br>　● Intro to Assignment 5: Data Viz |

| | 11/26 Wed | ***NO CLASS (Thanksgiving Break)*** |
|---|---|---|
| WEEK 15 | 12/01 Mon | **Unit 5: Data Visualization**<br>In Class<br>    ●   Chart.js |
| | 12/03 Wed | **Unit 5: Data Visualization**<br>In Class<br>    ●   Chart.js |
| WEEK 16 | 12/08 Mon | **Unit 5: Data Visualization**<br>In Class<br>    ●   Debugging<br>    ●   Group Coding |
| | 12/10 Wed | **Unit 5: Data Visualization**<br>In Class<br>    ●   Work Time |
| WEEK 17 | 12/15 Mon | **Future as Systems Work Time**<br>Due<br>    ●   Assignment 5: Data Viz |
| | 12/17 Wed | **Future as Systems Work Time** |

# University, College, School, and Program Policies

## Academic 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, doing research, and using Artificial Intelligence. 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 here.

Resources regarding what plagiarism is and how to avoid it can be found at the University Learning Center.

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.

## [TNS Student Disability Services](#)

If you are a student with a disability/disabled student, or believe you might have a disability that requires accommodations, please head to the SDS [website](#), and complete the Self ID form. Then, head to [Starfish](#) and find a time to meet with Nick Faranda, at a time of mutual convenience. If you have any questions or concerns, please contact the Student Disability Services (SDS) at studentdisability@newschool.edu, or 212-229-5626.

## Student Course Ratings (Course Evaluations)

During the last two weeks of the semester, students are asked to provide feedback for each of their courses through an online survey. They cannot view grades until providing feedback or officially declining to do so. Course evaluations are a vital space where students can speak about the learning experience. It is an important process which provides valuable data about the successful delivery and support of a course or topic to both the faculty and administrators. Instructors rely on course rating surveys for feedback on the course and teaching methods, so they can understand what aspects of the class are most successful in teaching students, and what aspects might be improved or changed in future. Without this information, it can be difficult for an instructor to reflect upon and improve teaching methods and course design. In addition, program/department chairs and other administrators review course surveys. Instructions are available online [here](#).

## Additional University-wide Policies

- [Intellectual Property Rights](#)
- [TNS Grading Policies](#)
- [Title IX Policy](#)

A comprehensive overview of University policies may be found under [Policies: A to Z](#). Students are also encouraged to consult the [Academic Catalog](#).

## Course-specific Policies

### Communication

Announcements and updates regarding the class will be communicated over email. Class materials will be kept up to date on the class website. The class website should be considered the definitive source for schedule, due dates, and assignment requirements.

### Submitting Work

**Assignments are due at 12:00pm the day of class**. This gives the instructor time to review your work before talking about it, and the students time to rest before class so they can be present.

Unless discussed otherwise, all assignments should have their code hosted on GitHub and should have a working version hosted online. Links to each assignment as well as its source code and the code walkthrough must be submitted via Canvas.

## Responsibility

Students are responsible for all assignments, even if they are absent. Students are responsible for maintaining a backup of their source code throughout the semester.

## Electronic Devices

The use of electronic devices is permitted during in-class work/debugging time and technical demonstrations when the device is being used in relation to the course's work. During discussions and certain activities, students are expected to have devices put away so we can focus on in-class interaction. All other uses are prohibited in the classroom and devices should be turned off before class starts.

## Plagiarism and Code

Programming is often done in a culture of collaboration and sharing, with many programmers sharing their work and allowing others to use and modify their code. You are welcome to use code that you find in this class. Keep in mind that the code you find has to serve your creative vision rather than the creative vision of the person who wrote it. If you do use somebody else's code, **in order to not plagiarize, you must do the following**:

- Add a comment in your code, citing the source and author of the found code.
- Be able to explain the found code that you're using.
- Modify the found code in a meaningful and significant way.

# Resources

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

- [The University Libraries](#)
  The New School Libraries provide access to a vast array of print and electronic resources as well as personal research consultations, classroom instruction, and spaces for study and collaboration.

- [Archives & Special Collections](#) and [Digital Collections](#)
  The New School Archives and Special Collections holds a wide array of collections in many different formats that may be useful in your academic, artistic, and personal projects, including paper and digital records, audiovisual material, artist's books, zines, and records related to the histories of all divisions of the University. Archivists are available to help with your research and to offer guidance for locating resources specific to your topic. Contact [archivist@newschool.edu](mailto:archivist@newschool.edu) to get started.

- [The University Learning Center](#)
  For assistance with coursework during the semester, I encourage you to schedule free tutoring sessions at the University Learning Center (ULC). Individual appointments in Writing, Software, Computer

Programming, Oral Presentations, Math, Time Management and ADHD Coaching are available from 7am-midnight Monday-Friday and 12-5pm on Saturdays. Online appointments are scheduled via WCONLINE and in person sessions or last minute virtual walk-ins can be requested by emailing learningcenter@newschool.edu. In person sessions are held at 66 W. 12th St. on the 6th floor. The ULC also offers weekly and biweekly sessions. For a complete list of services and general information, please visit the ULC webpage.

- 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.

- The New School Food Assistance includes food assistance and additional resources for New School students.

- Health and Wellness includes additional services and support available to New School students.