

Parsons School of Design
DESIGN AND TECHNOLOGY
WEB ADVANCED: JAVASCRIPT

PGTE 5505; CRN 8108

Spring 2019

Web: 7:00pm - 9:40pm.

Location: 63 5th Ave, Room 300

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Course Description

Applications rarely are comprised of a tangled set of static files. They're dynamic. They update. They remember things. The course will introduce the concepts of a database and Web applications as a set of design problems. The class will investigate server-side applications, third-party data sources and APIs and how applications can become dynamic and highly functional. To approach the design and construction of applications that derive from data sources and databases, this course builds upon an essential knowledge of Web Standards, user interface design, and usability to support the creation of functional and responsive projects for the Web across multiple devices and platforms. Students will incorporate interaction design, visual design, user experience and code to rapidly sculpt data into content. By the end of the course, students should be able to design, build and deploy data-driven Web applications. The course employs a pedagogy suitable for designers, artists and technologists who seek an empowerment achieved by being able to build data-driven applications.

We will learn JavaScript properly. Then, we will learn useful design patterns. Then we will pick up useful tools for making cool things better.

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

1. Strong understanding of JavaScript programming language and its applications.
2. Ability to leverage from various types of Web APIs available to client browsers.
3. Clear insight on Client/Server Architecture, communication with Web Servers
4. Establish an industry standard workflow for building web applications

Assessable Tasks The goal of the course is to work to the best of the students' ability and the grades will reflect that effort. The components of the final grade are:

Participation /Attendance	30%
Quizzes and short Assignments	40%
Final Project	30%

TOTAL**100%**

Process and Participation requires contributions in class and to the course forums, the day-to-day substance of the course, including but not limited to: developing ideas, defining projects, working with others in a timely and reliable way.

Quizzes and short assignments mean that there will be several quizzes and assignments throughout the semester. These will usually be take home quizzes/problems in which students will need to develop a project based on the learning materials.

Final Project means the collective process of developing and delivering the results of the student's individual project towards the end of the semester. This will be a culmination of the concepts learned through the course and will be a showcase for their portfolio as well as a blueprint for their future web development endeavors.

Course Outline The course will introduce unique features of JavaScript and explore its evolution from a browser enhancement framework into a modern web framework for building efficient and highly capable applications. The learning process will work through basic programming approaches, learning syntax, applying them on individual projects and eventually preparing a modern development workflow to formalize and automate the process of building and generating a modern web programming platform.

Each class will run through topics (as outlined below) and follow up with a quiz/assignment to be completed outside the class session. Canvas will be used on a regular basis to document the projects as well as any course-related discussions. Each assignment posted should include code, analytical documentation, references and any questions, speculations related to the project on hand.

WEEK 1	DATE	Introduction, History, Syllabus	Assignment: Create a flow diagram (visual/textual) on a decision-based activity and submit on Canvas.
WEEK 2	DATE	JavaScript Syntax: grammar, variables, expressions, operators, statements	Assignment: Create ASCII Art using variables and loops. Due next by week.
WEEK 3	DATE	JavaScript Syntax: functions and objects	Assignment: Using functions and objects, create an AI Assistant.
WEEK 4	DATE	The Document Object Model	Assignment: Refine previous project.
WEEK 5	DATE	The Window Object, Ajax Events and Forms	Assignment: Build an ajax-driven event handler. Due next by week for mid-terms.
WEEK 6	DATE	Object Oriented Programming in JavaScript Administer Mid Term Evaluations	Assignment: Refine AJAX handlers.
WEEK 7	DATE	Functional Programming and Modules	Assignment: TBD.
WEEK 8	DATE	Modules, JQuery and Alternatives	Assignment: Build a more complex form validation project with Modules. Due next by week.

WEEK 9	DATE	Model View ** (MV* Frameworks)	Assignment: Update previous project to use an MV*. Due next by week.
WEEK 10	DATE	Workflows and DevOps Setup	Assignment: Build a DevOps workflow and incorporate existing project.
WEEK 11	DATE	ES2015, ES2016 & ES2017	Assignment: Review
WEEK 12	DATE	Final Project Introduction HTML5 APIs	Assignment: Define final project. Due in 3 weeks
WEEK 13	DATE	Final Project Working Session Web Storage	Assignment: Continue working on the final project.
WEEK 14	DATE	Final Project Presentation	Assignment: Continue working on the final project.
WEEK 15	DATE	Last Class: QA/Feedback/Support for Studio	

Recommended Reading

1. Eloquent JavaScript 3rd edition: <http://eloquentjavascript.net/>
2. You Might Not Need JQuery: <http://youmightnotneedjquery.com/>
3. ECMAScript Guide: <https://flaviocopes.com/ecmascript/>
4. Javascript Design Patterns: <https://addyosmani.com/resources/essentialjsdesignpatterns/book/>
5. Additional handouts, downloads, and resources will be provided where required.

Resources

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

- The University (and associated) Libraries: <http://library.newschool.edu>
- The University Learning Center: <http://www.newschool.edu/learning-center>
- University Disabilities Service: www.newschool.edu/student-disability-services/

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 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.

Grading Standards

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. 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 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.

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 "F" 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

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 and/or on canvas 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

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](#).