

Web Advanced: Javascript

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Parsons The New School for Design

PSAM 3210 - B

Spring 2013

Thursdays 7:00 - 9:40PM

66 5th Ave 005

Introduction

With the rapid evolvement of HTML5 in the past few years, the web has grown into a mature platform with infinite possibilities. This course focuses on creative explorations using web technologies while introducing some of the more advanced concepts and best practices in modern front-end web development. Topics will include 2D graphics and animation, latest HTML5 and CSS3 features, data-driven applications, and techniques for creating captivating interactivity. Since this is an advanced class with intensive programming, enrolling students are expected to be already fluent in HTML/CSS and have previous programming experience.

Learning Outcomes

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

- Skillfully use the web as a platform for creative and artistic explorations
- Think creatively in a technical context, and vice versa
- Build richly interactive web experiences
- Employ the latest HTML5 features in their projects
- Demonstrate familiarity with modern front-end development practices

Projects and Evaluation

There will be small coding practice assignments after each class. After going through the building blocks, students will work on three projects, each dealing with a specific theme

discussed in class: visual, data and interactivity. These projects are the core of this course: students are expected to think out of the box, experiment with the technology, and iteratively polish their work.

- 10% - Class Participation and Weekly Assignments
- 20% - Project 1: Visual (*Due Feb.28*)
- 20% - Project 2: Data (*Due Mar.21*)
- 20% - Project 3: Interactivity (*Due Apr.18*)
- 30% - Final Project (*Due May.16*)

Books & Resources

For students who are already proficient in a language other than JavaScript, or those who really want to become a JavaScript ninja, I recommend that you get a copy of JavaScript: The Definitive Guide by David Flanagan. It's a massive book so I will not require you to read all of it, but it explains every little detail about the language.

For those of you who feel a bit fuzzy about your JavaScript skills, I recommend that you go through the tutorials on Codecademy. Feel free to skip parts that you already know, but make sure you understand the basics. The class will move quite fast so you do not want to be left behind.

In addition, I strongly recommend that you check out the following websites, or at least know their existence, as they can prove immensely useful when you need them. More topic-specific resources will be shared in class.

- Book introducing HTML5: Dive Into HTML5
- Technical reference: Mozilla Developer Network (this is a lot better than W3C's documentation)
- Technical Q&A: Stack Overflow (you will very likely find that your question has already been answered)
- Catalog for JavaScript libraries: Jster
- Creating shareable javascript experiments: Codepen.io
- Advanced HTML5 articles: HTML5 Rocks
- Book on creative coding techniques: Nature of Code (although not in JavaScript, the concept and techniques are extremely well articulated)
- Cool HTML5 projects: CreativeJS

Schedule

Week 1:

Jan.31 - Introduction

Week 2:

Feb.7 - Getting Started: Background, Tools, Resources

JavaScript fundamentals

2D Graphics: Drawing and Animating (1) - Canvas API & SVG

Project 1: Visual - assigned

Week 3:

Feb.14 - Object oriented javascript

Drawing and Animating (2) - programmatic animation basics, CSS3

Week 4:

Feb. 21 - Drawing and Animating (3) - advanced animation techniques

Project 1 in progress workshop

Week 5:

Feb.28 - ***Project 1: Visual - critique***

Data (1) - Arrays, JSON, Ajax

Project 2: Data - assigned

Week 6:

Mar.7 -Data (2) - working with APIs, visualizing data

Week 7:

Mar.14 - Data (3) - data + animation

Project 2 in progress workshop

Week 8:

Mar.21 - ***Project 2: Data - critique***

Interactivity (1) - Mouse, Keyboard, Scrolling

Project 3: Interactivity - assigned

Week 9:

Mar.28 - Spring Break

Week 10:

Apr.4 - Interactivity (2) - Mobile Device: Touch, Accelerometer

Week 11:

Apr.11 - Interactivity (3) - WebCam & Speech Recognition
Project 3 in progress workshop

Week 12:

Apr.18 - ***Project 3: Interactivity - critique***
Final Project - assigned

Week 13:

Apr.25 - TBD depending on class progress and interest (see potential topics below)

Week 14:

May.2 - TBD / Final Project Workshop

Week 15:

May.9 - Final Project Workshop

Week 16:

May.16 - ***Final Critique***

Potential Additional Topics

- 3D Graphics: WebGL, Three.js
- CSS preprocessors (LESS & SASS)
- Modular Javascript with RequireJS

Grading Standards

A - Superior work. You have clearly demonstrated an enthusiasm for the projects, and an understanding of the concepts that guide your decisions. Your work demonstrates original and creative thinking in the field of creative web development. Your projects are consistently and cleanly executed with a high level of attention devoted to craft and details. You're able to explain your own work and offer insightful critique of your classmates' projects. You are present in class and participate in discussions.

B - Good work. You've completed all of the projects with a sufficient level of quality. Your projects are less conceptually clear, but you have displayed clear effort in attempting an understanding. Your projects are cleanly executed with a good level of attention devoted to craft and details. You're able to explain your own work and offer insightful critique of your classmates' projects. You are present in class and participate in discussions.

C - Satisfactory work. You've shown that you can interact with the concepts presented in class, but you have not demonstrated a deep understanding or enthusiasm for your work. You do not demonstrate a high level of attention to craft. You participate in some discussions but have not added insightful critique.

D - Your work adheres to each project's guidelines but you have not demonstrated original thought or depth of understanding of the concepts presented in class. You have not participated in class discussions, or have missed a significant amount of classes.

F - Failing grades are given for required work that is not submitted or for incomplete final projects. Make-up work or completion of missed assignments may be permitted only with the approval of the instructor and the program director.

I - A grade of I (Incomplete), signifying a temporary deferment of a regular grade, may be assigned when coursework has been delayed at the end of the semester for unavoidable and legitimate reasons. Incomplete grades are given only with the written approval of the instructor and the program director. The Request for an Incomplete Grade form must be filled out by the student and instructor prior to the end of the semester.

For undergraduate students, if a grade of incomplete is approved, outstanding work must be submitted by the seventh week of the following Fall semester (for Spring and Summer courses) or by the seventh week of the following Spring semester (for Fall courses). Otherwise, a grade of I will automatically convert to a permanent unofficial withdrawal (WF) after a period of four weeks. For graduate students, the maximum deadline for completion of an incomplete is one year though a shorter period may be imposed at the discretion of the instructor.

Divisional, Program and Class Policies

Responsibility – Students are responsible for all assignments, even if they are absent. Late or incomplete projects and lack of preparedness for in-class discussions and presentations will jeopardize your successful completion of this course.

Participation – Class participation is an essential part of class and includes: keeping up with reading, 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 two absences for classes that meet once per week. Lateness or early departure from class may also translate into one full absence. *Please contact me prior to class if you know you will have to miss all or a portion of our session.*

Delays – In rare instances, I may be delayed arriving to class due to my full-time job. If I have not arrived by the time class is scheduled to start, students are expected to wait a minimum of thirty minutes for my arrival. In the event that I will miss class entirely, an email notification will be sent in advance.

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.

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 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. At that point I will review the letter with you and discuss these accommodations in relation to this course. Mr. Luchs’ office is located in 79 Fifth Avenue, 5th floor. His direct line is (212) 229-5626 x3135. You may also access more information through the University’s web site at <http://www.newschool.edu/studentservices/disability/>.