Class 1
Introduction and Overview
Graphics on the Web
Graphics on the Web

Raster Graphics

GIF: Graphics Interchange Format

JPEG: Joint Photographic Experts Group

PNG: Portable Network Graphics

Flash (SWF files)

HTML5 Canvas (renders directly)
Graphics on the Web

Vector Graphics

Class 1
Introduction and Overview

Flash (SWF files)
SVG: Scalable Vector Graphics
CSS3 (vector-like capability)
HTML5 (drawing primitives)
The Internet and the Web are separate but related things.

The Internet is a massive network of networks, a networking infrastructure that connects computers globally.

The Web is a way of accessing information over the medium of the Internet, an information sharing model that is built on top of the Internet.

The Web is just one of the ways that information can be disseminated over the Internet but it is the one we are focused on in this class.
Graphics on the Web

State of Flux

The technologies discussed in this class are not all established standards. They are mostly agreed upon but not evenly implemented. Most modern browsers support everything we will do, but not everyone uses up-to-date, modern browsers (and that’s ok). Web graphics technologies are, as ever, in a state of flux.
Drawing on the Web
Drawing on the Web

Project-Oriented

We will explore the ways in which code can be applied to generate interactive, Web-based graphics.

We will not be focusing on just one language or technique, but several.

While we will spend the most time in JavaScript, this will be during the second half of the semester.

You are encouraged to integrate multiple techniques in your work.
Drawing on the Web

HTML and CSS

Review foundations

Emphasize clarity and organization

Help prevent problems later on
Drawing on the Web
SVG

Class 1
Introduction and Overview

Scalable Vector Graphics
Hand-coding
Illustration software
Integration with CSS
Drawing on the Web
CSS Animation

Transitions
Transforms
Animation
Drawing on the Web

Version Control

GitHub

Iterative approach to creative code
Maintain snapshots of work
Opens doors to collaboration
Class 1
Introduction and Overview

Drawing on the Web
JavaScript

Introduce essentials
Focus on interactivity
Become familiar with syntax
Drawing on the Web

HTML Canvas

Using JavaScript with HTML5

The canvas element allows you to draw graphics on the fly

We will use a library called p5.js
Drawing on the Web

WebGL

Drawing in three dimensions on the Web

Websites as places rather than pages

We will use a library called Three.js
Drawing on the Web

Outline

Class 1
Introduction and Overview

- HTML and CSS Foundations
- SVG
- CSS Animation
- Version Control
- JavaScript
- HTML Canvas
- WebGL
Drawing on the Web

This course is not:

• A complete beginner-level class

• An advanced programming class

• A comprehensive introduction to JavaScript

• A game development class

• Set in stone
Introductions
**Introductions**

**Me**

Joshua Clayton

jclayton@cs.nyu.edu

Room 420, Warren Weaver Hall

Office hours

- Tuesday, 1:30–3:00 p.m.
- Wednesday, 10:30 a.m.–12:00 p.m.

[cs.nyu.edu/cs/faculty/clayton](http://cs.nyu.edu/cs/faculty/clayton)
Introductions

You

Where are you from?

What are you studying at NYU?

What interests you about this class?
Syllabus
Class 1
Introduction and Overview

You are expected to come to all classes and arrive on time.

Please let me know in advance if you will be out for any reason.

Please let me know if you miss class due to illness.

Computers are welcome in class but not required.

If you ever feel overwhelmed or need extra help, I will be available to you.
**Syllabus**

**Texts**

<table>
<thead>
<tr>
<th>Required:</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Eloquent JavaScript: A Modern Introduction to Programming</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Optional:</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Web Aesthetics: How Digital Media Affect Culture and Society</em></td>
</tr>
</tbody>
</table>
Syllabus

Assignments

There will be seven assignments and one final project.

Details of each will be posted on the class website.

All assignments are to be submitted via NYU Classes.

Do your best to turn work in on time. 10% will be deducted for each week after the deadline.

No assignments will be accepted after three weeks or after the final exam.
Syllabus

Grading Rubric

Assignments: 40%
Midterm exam: 20%
Final project: 20%
Final exam: 20%