

# Web Project Design and Development

ISS/AMI 241L /  
VMS 257L //  
Spring 2019

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## Course Schedule

<b>INTRO</b>	Jan 09	Introduction <ul style="list-style-type: none"> <li>In-Class: Introduction to the Course</li> <li>Demo: Setting up your development environment / setting your personal web space at <a href="http://people.duke.edu/">http://people.duke.edu/</a></li> <li>Homework               <ul style="list-style-type: none"> <li>Assignment 1 (Due Jan 16): Set Up Personal Web Space Post Index.html</li> <li>Read: Paul Ford, "What is Code?"</li> <li>Skim: Mozilla.org, "What is JavaScript?"</li> </ul> </li> </ul>
<b>WEEK 2:</b>	Jan 14	JavaScript Fundamentals: Syntax, Variables, Operators
<b>JavaScript First Steps</b>		<ul style="list-style-type: none"> <li>In-Class Troubleshooting: Course websites, uploading, HTML/CSS questions</li> <li>Demo: JavaScript Fundamentals: What is JavaScript? What for? First Steps: Syntax, Variables, Operators</li> <li>Homework               <ul style="list-style-type: none"> <li>Tutorials: W3 Schools JavaScript Tutorials, Complete Introduction – Data Types</li> <li>Read:                   <ul style="list-style-type: none"> <li>Speaking JavaScript, Ch.1 (read/skim through "Strings")</li> <li>Tim O'Reilly: What is Web 2.0, O'Reilly, p.5, 2005</li> <li>Wikipedia Page on the History of the Internet</li> </ul> </li> <li>Assignment 2: Syntax, Variables and Operators worksheet</li> </ul> </li> </ul>
	Jan 16	More JavaScript Fundamentals: Data Types, Objects, and Functions <ul style="list-style-type: none"> <li><b>Assignments 1 &amp; 2 Due</b></li> <li>Demo: Objects and Functions</li> <li>Homework               <ul style="list-style-type: none"> <li>Tutorials: W3 Schools JavaScript: Do Functions, Object and all HTML DOM sections</li> <li>Assignment 3: Arrays, Functions &amp; Objects Worksheet</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>◦ Work on class website: styling, positioning</li> <li>◦ Read: <ul style="list-style-type: none"> <li>▪ Frank Chimero, “What Screens Want”</li> <li>▪ Tim Berners-Lee, “Long Live the Web”</li> </ul> </li> </ul>
<b>WEEK 3:</b>	Jan 21	No Class – Martin Luther King Day
<b>JavaScript DOM</b>		
	Jan 23	<p>JavaScript alongside HTML and CSS: Working with the DOM</p> <ul style="list-style-type: none"> <li>• <b>Assignment 3 Due</b></li> <li>• Discussion: Web 2.0 and Scripting User Interaction</li> <li>• Demo: Working with the DOM</li> <li>• Homework: <ul style="list-style-type: none"> <li>◦ Assignment 4: DOM Practice – Pure JavaScript Dropdo</li> </ul> </li> </ul>
<b>WEEK 4:</b>	Jan 28	Getting Started with JQuery: Basic Concepts, Syntax and Select
<b>Introducing JQuery</b>		<ul style="list-style-type: none"> <li>• <b>Assignment 4 Due</b></li> <li>• Demo: JQuery Syntax and Selectors</li> <li>• Homework: <ul style="list-style-type: none"> <li>◦ JQuery Tutorial on W3Schools: “Intro” – “Events”</li> <li>◦ Assignment 5: JavaScript to JQuery</li> </ul> </li> </ul>
	Jan 30	<p>JQuery Review and Design Principles</p> <ul style="list-style-type: none"> <li>• <b>Assignment 5 Due</b></li> <li>• Demo: Group work-through of JavaScript to JQuery Problem</li> <li>• Discussion of web design principles // How to start planning website</li> <li>• Homework: <ul style="list-style-type: none"> <li>◦ Tutorial: “Events” and “Effects” sections on learn.jquery.com</li> <li>◦ Assignment 6: Outline of midterm website structure</li> </ul> </li> </ul>
<b>WEEK 5:</b>	Feb 04	Wireframing and Frameworks: Making Interface
<b>Wireframing and CSS Frameworks</b>		<ul style="list-style-type: none"> <li>◦ <b>Assignment 6 Due</b></li> <li>◦ Demo: Wireframing / Bootstrap Framework implementation</li> <li>◦ Homework: <ul style="list-style-type: none"> <li>▪ Assignment 7: Wireframe design and begin Bootstrap implementation</li> <li>▪ Read:</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>■ Codecademy.com: “How Users Scan”</li> <li>■ Medium.com: “Z-Pattern for Reading Web Con</li> <li>■ Read: Bootstrap Documentation page</li> <li>■ Read/Skim “Introduction”, “Layout”, “Content “Components” sections</li> </ul>
	Feb 06	<p>Course / Midterm website workshop session</p> <ul style="list-style-type: none"> <li>• <b>Assignment 7 Due</b></li> <li>• Demo / Workshop: More Bootstrap, Course Website works session</li> <li>• Homework: <ul style="list-style-type: none"> <li>◦ Read: “How the BootStrap 4 Grid Works“</li> <li>◦ Research JQuery Plugins, Documentation</li> <li>◦ Assignment 8: “Blog” post about a JQuery or JS Plugir you’re interested in</li> </ul> </li> </ul>
<b>WEEK 6:</b>	Feb 11	<p>JQuery Plugins: Leveraging pre-built code to achieve design gc</p> <p><b>Introducing P5.JS</b></p> <ul style="list-style-type: none"> <li>• <b>Assignment 8 Due</b></li> <li>• Demo/Lecture: Incorporating JQuery Plugins</li> <li>• Homework: <ul style="list-style-type: none"> <li>◦ <b>Assignment 9:</b> Deploy a JQuery Plugin</li> </ul> </li> </ul>
	Feb 13	<p>Introduction to P5.JS and Creative Coding</p> <ul style="list-style-type: none"> <li>• Demo: p5.js setup and creating a canvas</li> <li>• Homework: <ul style="list-style-type: none"> <li>◦ Browse: List of Creative Coding Projects from Dan Shiff</li> <li>◦ p5.js Examples</li> <li>◦ Read: P5.JS Overview</li> <li>◦ <b>Assignment 10:</b> P5 JS First Canvas: remixing example:</li> </ul> </li> </ul>
<b>WEEK 7:</b>	Feb 18	<p>More P5.JS</p> <p><b>More P5.JS</b></p> <ul style="list-style-type: none"> <li>◦ <b>Assignment 10 Due</b></li> <li>◦ Demo: Up and Running with p5.js: Functions, Objects &amp; Arrays</li> <li>◦ Homework: <ul style="list-style-type: none"> <li>■ Assignment 11: instance mode, animation, interaction (due Feb 27, but may be helpful for your midterm site!)</li> <li>■ Optional, highly recommended: Coding Train P5.js Tutorials: 2.1-2.6, 3.1-5.3 (By Feb 27)</li> </ul> </li> </ul>
		Midterm Workshop and Troubleshooting Session

Feb 20		
<b>WEEK 8:</b>	Feb 25	Midterm Website Group Critique Session
<b>Midterm / More P5.JS</b>		<ul style="list-style-type: none"> <li>• <b>Midterm Website Due 12AM Feb 24</b></li> <li>• In Class: 5-minute website presentation and group critique session</li> <li>• Homework:               <ul style="list-style-type: none"> <li>◦ Begin final project proposal research</li> </ul> </li> </ul>
	Feb 27	P5.JS: DOM <ul style="list-style-type: none"> <li>• <b>Assignment 11 Due</b></li> <li>• Demo: P5 DOM</li> <li>• Homework:               <ul style="list-style-type: none"> <li>◦ Coding Train p5.js DOM tutorials 8.2-8.9~ (optional, but good)</li> <li>◦ Assignment 12: P5.js DOM</li> </ul> </li> </ul>
<b>WEEK 9:</b>	Mar 4	P5.js DOM: Loading external files, other inputs
<b>P5 DOM</b>		<ul style="list-style-type: none"> <li>• <b>Assignment 12 Due</b></li> <li>• Demo: Loading things, More DOM</li> <li>• Homework:               <ul style="list-style-type: none"> <li>◦ Start Assignment 13: Make an Interface with p5 / DOM</li> </ul> </li> </ul>
	Mar 6	P5.js: Continuing with Interface <ul style="list-style-type: none"> <li>• Demo: More tools – functions with arguments, loading and looping through arrays, code modularity</li> <li>• Homework:               <ul style="list-style-type: none"> <li>◦ Assignment 13: Make an interface (Due March 18)</li> <li>◦ Begin Final Project Proposal research: start researching libraries and resources for your final project                   <ul style="list-style-type: none"> <li>▪ Some resources to get started                       <ul style="list-style-type: none"> <li>▪ Want to work with data and images? here's a list of very large image sets</li> <li>▪ Inspiration: molleindustria makes indie games! Check out the p5.play library</li> <li>▪ There are tons of example P5 Sketches to inspire you google around</li> <li>▪ P5 isn't the only sketching library</li> <li>▪ And MORE PR examples, even</li> </ul> </li> </ul> </li> </ul> </li> </ul>
<b>OFF</b>	Mar 11	Spring Break

<b>OFF</b>	Mar 13	Spring Break
<b>WEEK 10:</b>	Mar 18	P5.js: Getting Data (or Video in p5)
<b>Video / Working with Data</b>		<ul style="list-style-type: none"> <li>• <b>Assignment 13 Make an Interface! Due</b></li> <li>• In Class: Video Input with CreateCapture, More About Pixel</li> <li>• Homework: <ul style="list-style-type: none"> <li>◦ Check out the final project description. The Final Project Proposal is Due Monday, March 25</li> <li>◦ Start final project research</li> <li>◦ Try out Video examples from Dan Shiffman</li> </ul> </li> </ul>
		<p>Working with Data in P5, Part I: Sources and Formats</p> <ul style="list-style-type: none"> <li>• In Class Discussion / Demo: APIs, Data in JavaScript and P5</li> <li>• Homework: <ul style="list-style-type: none"> <li>◦ Kate Crawford, “The Anxieties of Big Data” The New York Times (2014)</li> <li>◦ Try starting a local server: <ul style="list-style-type: none"> <li>▪ Dan Shiffman’s instructions for doing this with pyth</li> <li>▪ Alternative: Download and install node.js (we will do this as homework for next class): <ul style="list-style-type: none"> <li>▪ MAC</li> <li>▪ Windows</li> <li>▪ npm install http-server and run. (see second column on this page)</li> </ul> </li> </ul> </li> <li>◦ Final Project Proposal Blog Post due Monday</li> </ul> </li> </ul>
<b>WEEK 11:</b>	Mar 25	Working with Data in P5, II:
<b>Server-Side Scripting with Node</b>		<ul style="list-style-type: none"> <li>• Final Project Proposal Due (Blog Post)</li> <li>• Demo: intro – web servers, node.js, APIs</li> </ul> <p>Homework:</p> <ul style="list-style-type: none"> <li>• Install Node.js on your computer</li> <li>• Read/Skim: p5 / Processing Local Server docs</li> <li>• Watch: <ul style="list-style-type: none"> <li>◦ Dan Shiffman on “What is node.js?” , Coding Train Workshop with Data Tutorials:10.1-10.4</li> <li>◦ Optional, but very interesting: Tania Buchner, “Objects with Intense Feeling: The Case of the Twitter API” Computational Culture (2013)</li> </ul> </li> </ul>
	Mar 27	Server-side Scripting with Node.js

		<ul style="list-style-type: none"> <li>• Discussion / Demo: Web Servers, Node.js</li> <li>• Homework               <ul style="list-style-type: none"> <li>◦ Assignment 14. Make a sketch that calls data from an API</li> <li>◦ <b>Final Project Asset prep due Wednesday, April 3</b> (block)</li> </ul> </li> </ul>
<b>WEEK 12:</b>	Apr 1	Server-side Scripting with Node.js & P5.js, Part I
<b>Node.js to serve data: Twitter Bots</b>		<ul style="list-style-type: none"> <li>• <b>Assignment 14: API Sketch Due</b></li> <li>• Demo: Getting data from twitter with node.js</li> <li>• Homework:               <ul style="list-style-type: none"> <li>◦ Browse list of twitter bots</li> <li>◦ Work with the demo files from class to get data from Twitter</li> <li>◦ set up a twitter developer account</li> </ul> </li> </ul>
	Apr 3	Making a Bot using node.js, Part II <ul style="list-style-type: none"> <li>• Demo: Bot v. 1 – browser-based script</li> </ul>
<b>WEEK 13:</b>	Apr 8	Working with Databases – Database As Service
<b>Generative Systems</b>		<ul style="list-style-type: none"> <li>• Demo: Firebase / Continued App Build</li> <li>• Homework:               <ul style="list-style-type: none"> <li>◦ Work on Storyboarding for Final Project / Final Project</li> </ul> </li> </ul>
	Apr 10	Working with Databases / Servers – Node.js <ul style="list-style-type: none"> <li>• Demo: using Node.js to serve and save data</li> <li>• Homework: (extra credit due in last week, with final project)               <ul style="list-style-type: none"> <li>◦ write a small app that gets and displays tweets using the Twit Package in node.js or codebird.js</li> </ul> </li> </ul>
<b>WEEK 14:</b>	Apr 15	Final Project Pitch and Group Critique
		<ul style="list-style-type: none"> <li>• <b>Final Project Storyboard due</b></li> <li>• In Class: Final Project Pitch / Group Critique</li> </ul>
	Apr 17	Final Project Troubleshooting and Workshop
<b>LAST WEEK: Final Projects</b>	Apr 22	Final Project Troubleshooting and Workshop
	Apr 24	Final Project Short Presentation and Group Critique

## Final Project Website Due Monday, April 29 by 11:59 PM

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