

## CS601: Web Application Development

This class focuses on HTML5, CSS 3.1+ and ES6 with an emphasis using standard web frameworks, such as ReactJS. Students are highly encouraged to bring their laptops to class for our laboratories. Most of our learning comes from hands-on training.

### Instructor

Andrew Sheehan [asheehan@bu.edu](mailto:asheehan@bu.edu)

### Office Hours

Office hours are by appointment. Please reserve the time & place ahead of time with me.)

### Classroom Location

Please check with [bu.edu/studentlink](http://bu.edu/studentlink) for the latest location.

### Required eBooks

Most are free and online

- HTML and CSS Design and Build Websites. David Flanagan  
<https://wtf.tw/ref/duckett.pdf>
- JavaScript: The Definitive Guide  
href="http://www.stilson.net/documentation/javascript.pdf">authors
- Exploring ES6  
<http://exploringjs.com/es6.html>
- jQuery  
<https://books.goalkicker.com/jQueryBook/>

- Eloquent JavaScript

[https://eloquentjavascript.net/Eloquent\\_JavaScript.pdf](https://eloquentjavascript.net/Eloquent_JavaScript.pdf)

- React JS books (Free and available online)

[https://html5hive.org/wp-content/uploads/2018/04/The-Complete-Beginners-Guide-to-React\\_Dyrr.pdf](https://html5hive.org/wp-content/uploads/2018/04/The-Complete-Beginners-Guide-to-React_Dyrr.pdf)

[https://www.valentinog.com/blog/redux/#React\\_Redux\\_tutorial\\_what\\_problem\\_does\\_Redux\\_solve](https://www.valentinog.com/blog/redux/#React_Redux_tutorial_what_problem_does_Redux_solve)

## Course Policies

- Do your work. HTML, JavaScript and CSS are best learned by doing. Not just reading/watching.
- Homework will not be accepted after the due date.
- Exams and quizzes cannot be made up or rescheduled.

## Grading Policies

- Homework, Quizzes and Laboratories: 25%
- Midterm Examination: 25%
- Term Project: 25%
- Final Examination: 25%

# Schedule

Weeks (Tuesday)	Topics	Read
January 21	<ul style="list-style-type: none"> <li>• Course Introduction and Expectations</li> <li>• Core HTML: List, Image, Paragraph, Div and Span (and more..)</li> <li>• The Document Object Model</li> <li>• Using the Chrome debugger</li> <li>• Writing your first HTML page</li> </ul>	Duckett: 1-5 Flanagan: 2
January 28	<ul style="list-style-type: none"> <li>• HTML: Forms and Tables</li> <li>• Introduction to Events and Basic Event Binding</li> <li>• Operators, Expressions, Built-in Data Types (ie: NULL, undefined)</li> <li>• Review of Basic Control Structures</li> <li>• Built-in Objects: Window, Document, String and Date</li> <li>• Introduction to Declared Functions</li> </ul>	Duckett: chapters 5,6 Flanagan: 3,5,14,17
February 4	<ul style="list-style-type: none"> <li>• HTML: Audio and Video Elements</li> <li>• <code>jQuery.bind()</code> and <code>document.addEventListener()</code></li> <li>• Using <code>DOMContentLoaded</code></li> <li>• Scope and Closures</li> </ul>	Duckett: 9 Flanagan: 8, 13 <a href="https://developer.mozilla.org/en-US/docs/Web/API/Window/DOMContentLoaded">https://developer.mozilla.org/en-US/docs/Web/API/Window/DOMContentLoaded</a> <a href="https://www.sitepoint.com/demystifying-scope-hoisting/">https://www.sitepoint.com/demystifying-scope-hoisting/</a>

	<ul style="list-style-type: none"> <li>• Function Expressions and Arrow Functions</li> <li>• Default Function Arguments</li> </ul>	<a href="https://medium.com/@mandeej/function-expressions-b4364604">https://medium.com/@mandeej/function-expressions-b4364604</a>
February 11	<ul style="list-style-type: none"> <li>• What is the purpose of Cascading Style Sheets ('CSS')</li> <li>• Using (by example) the various types of CSS Selectors</li> <li>• The <b>!important</b> expression and why we should not use it.</li> </ul>	Duckett: 10 <a href="https://developer.mozilla.org/en-US/docs/Web/CSS/CSS_Selectors">https://developer.mozilla.org/en-US/docs/Web/CSS/CSS_Selectors</a>
February 17	<a href="#">Presidents' Day Holiday, Classes Suspended (Monday, February 17)</a>	
February 18	<a href="#">Substitute Monday Schedule of Classes</a>	
February 25	<ul style="list-style-type: none"> <li>• Continuation of CSS Selectors</li> <li>• Floating and Displaying Elements</li> <li>• Using SASS with CSS</li> <li>• Using Flexbox</li> </ul>	Duckett: 15 <a href="https://css-tricks.com/snippets/c">https://css-tricks.com/snippets/c</a> <a href="https://sass-lang.com/guide">https://sass-lang.com/guide</a>
Tuesday, Mar-3	<ul style="list-style-type: none"> <li>• Data Structures: Array, Set and Map</li> </ul>	Flanagan: 7 <a href="https://developer.mozilla.org/en-US/docs/Web/JavaScript/Referer">https://developer.mozilla.org/en-US/docs/Web/JavaScript/Referer</a> <a href="https://developer.mozilla.org/en-US/docs/Web/JavaScript/Referer">https://developer.mozilla.org/en-US/docs/Web/JavaScript/Referer</a>
March 7 through March 15	<a href="#">Spring Recess</a>	
March 17	<a href="#">Midterm Examination</a>	

March 24	<ul style="list-style-type: none"> <li>• Classes, Objects and Literals</li> <li>• Packaging JavaScript with Modules</li> <li>• Destructuring</li> <li>• Rest Parameters</li> <li>• Spread Operator</li> </ul>	Flanagan: 9 <a href="https://developer.mozilla.org/en-US/docs/Web/JavaScript/Referer">https://developer.mozilla.org/en-US/docs/Web/JavaScript/Referer</a> <a href="https://developer.mozilla.org/en-US/docs/Web/JavaScript/Referer">https://developer.mozilla.org/en-US/docs/Web/JavaScript/Referer</a>
March 31	<ul style="list-style-type: none"> <li>• Introduction to Ajax: Native XHR and jQuery</li> <li>• JSON and XML</li> <li>• The Fetch API</li> <li>• Axios</li> </ul>	Flanagan: 18 <a href="https://github.com/axios/axios">https://github.com/axios/axios</a> <a href="https://developer.mozilla.org/en-US/docs/Web/JavaScript/Referer">https://developer.mozilla.org/en-US/docs/Web/JavaScript/Referer</a>
April 7	<ul style="list-style-type: none"> <li>• Promises and Callbacks</li> <li>• Uisng async and await</li> </ul>	<a href="https://developer.mozilla.org/en-US/docs/Web/JavaScript/Referer">https://developer.mozilla.org/en-US/docs/Web/JavaScript/Referer</a> <a href="https://developer.mozilla.org/en-US/docs/Web/JavaScript/Referer">https://developer.mozilla.org/en-US/docs/Web/JavaScript/Referer</a> <a href="https://developer.mozilla.org/en-US/docs/Web/JavaScript/Referer">https://developer.mozilla.org/en-US/docs/Web/JavaScript/Referer</a>
April 14	<ul style="list-style-type: none"> <li>• The superset of JavaScript: TypeScript</li> <li>• Introduction to ReactJS</li> </ul>	<a href="https://www.typescriptlang.org/c">https://www.typescriptlang.org/c</a> <a href="https://reactjs.org/">https://reactjs.org/</a>
April 21	<ul style="list-style-type: none"> <li>• React Routing</li> <li>• Final Examination Review</li> <li>• Early Start on Term Project Presentations (if necessary)</li> </ul>	<a href="https://reacttraining.com/react-">https://reacttraining.com/react-</a>
April 28	<a href="#">Term Projects: Student Presentations</a>	
May 5	<a href="#">Comprehensive Final Examination</a>	