



**MET CS401SC1**  
**MET CS601SC1**

## **Web Application Development**

The focus of this class is on HTML, CSS and Javascript. Students need to bring their laptops to every class. Most of our classes involve hands-on coding.

## **Instructor**

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

## **Office Hours**

Send an email with your request of a time and place and we can arrange a time.

## **Classroom Location**

HAR – Rafik B. Hariri Building/School of Business  
595 Commonwealth Avenue, Room 302  
<https://maps.app.goo.gl/yhYnslIYZxdKMoNc8>

# Course Policies

- Do not allow yourself to be swayed by the influence of AI technologies to do your homework. Do the assignments by your own hands.
- We do not work in groups. Work is done individually.
- Programming is learned by thinking, designing and lastly implementing. Not by copying.
- Homework submitted after the due date is frowned upon and your grade will suffer if you submit late.
- Your professor will not accept answers/submissions from students when the solutions are released.

## 401 Grading

- Homework: 20%
- Quizzes & Attendance: 10%
- Midterm Examination: 30%
- Final Examination: 40%

## 601 Grading

- Homework: 20%
- Quizzes & Attendance: 10%
- Midterm Examination: 25%
- Term Project: 20%
- Final Examination: 25%

# Required Books

Most are free and/or online. All books are recommended but not required.

- Response Web Design

**Tag: Duckett** "HTML and CSS: Design and Build Websites"

<https://www.amazon.com/HTML-CSS-Design-Build-Websites/dp/1118008189>

**Tag: BenFrain** **Recommended** "Responsive Web Design with HTML5 and CSS: Build future-proof responsive websites using the latest HTML5 and CSS techniques, 4th Edition."

[https://www.amazon.com/Responsive-Web-Design-HTML5-CSS-ebook-dp-B0B25BX7CW/dp/B0B25BX7CW/ref=dp\\_ob\\_title\\_def](https://www.amazon.com/Responsive-Web-Design-HTML5-CSS-ebook-dp-B0B25BX7CW/dp/B0B25BX7CW/ref=dp_ob_title_def)

**Tag: Flexbox** See: <https://css-tricks.com/snippets/css/a-guide-to-flexbox/>

- Javascript

**Tag: Exploring** <https://exploringjs.com/es6/index.html>

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

- React JS

**Tag: ReactRouter** **Recommended** <https://reactrouter.com>

**Tag: RobinWieruch** **Recommended** "The Road to React: Your journey to master React.js in JavaScript" By Robin Wieruch  
[https://www.amazon.com/Road-learn-React-pragmatic-React-js-ebook/dp/B077HJFCQX/ref=tmm\\_kin\\_swatch\\_0?\\_encoding=UTF8&qid=&sr=](https://www.amazon.com/Road-learn-React-pragmatic-React-js-ebook/dp/B077HJFCQX/ref=tmm_kin_swatch_0?_encoding=UTF8&qid=&sr=)

**Tag: JohnLarsen** **Recommended** "React Hooks in Action: With Suspense and Concurrent Mode" By John Larsen  
[https://www.amazon.com/React-Hooks-Action-Suspense-Concurrent-ebook/dp/B097825K4V/ref=tmm\\_kin\\_swatch\\_0?\\_encoding=UTF8&qid=&sr=](https://www.amazon.com/React-Hooks-Action-Suspense-Concurrent-ebook/dp/B097825K4V/ref=tmm_kin_swatch_0?_encoding=UTF8&qid=&sr=)

**Tag: DanielBugl** **Recommended** "Learn React Hooks: Build and refactor modern React.js applications using Hooks", by Daniel Bugl

[https://www.amazon.com/Learn-React-Hooks-refactor-applications-ebook/dp/B07YZ9V9WW/ref=tmm\\_kin\\_swatch\\_0?\\_encoding=UTF8&qid=1682219035&sr=1-1](https://www.amazon.com/Learn-React-Hooks-refactor-applications-ebook/dp/B07YZ9V9WW/ref=tmm_kin_swatch_0?_encoding=UTF8&qid=1682219035&sr=1-1)

**Tag: GregLim** **Recommended** "Beginning React with Hooks" By Greg Lim

[https://www.amazon.com/Beginning-React-Hooks-Greg-Lim-ebook/dp/B088ZT9P36/ref=sr\\_1\\_1?](https://www.amazon.com/Beginning-React-Hooks-Greg-Lim-ebook/dp/B088ZT9P36/ref=sr_1_1?crid=FIHSLI7E93M4&keywords=beginning+react+with+hooks&qid=1682906825&srefix=beginning+react+%2Caps%2C94&sr=)

[crid=FIHSLI7E93M4&keywords=beginning+react+with+hooks&qid=1682906825&srefix=beginning+react+%2Caps%2C94&sr=](https://www.amazon.com/Beginning-React-Hooks-Greg-Lim-ebook/dp/B088ZT9P36/ref=sr_1_1?crid=FIHSLI7E93M4&keywords=beginning+react+with+hooks&qid=1682906825&srefix=beginning+react+%2Caps%2C94&sr=)  
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- Bootstrap

**Tag: Bootstrap** <https://getbootstrap.com/>

<i>Day of Week: Wednesday</i>	<i>Summer, 2024 Schedule</i>
<b>Week #1</b> 22-May-2024	<ul style="list-style-type: none"> <li>• <i>Course expectations/planning</i></li> <li>• <i>Your development environment (Using Visual Studio Code)</i></li> <li>• <i>Core HTML elements and their attributes {BenFrain: "1,2", Duckett: "1-4"}</i></li> <li>• <i>Starting development with client-side Javascript</i></li> <li>• <i>Introduction to the DOM and elements</i></li> <li>• <i>Introduction to Version Control with GIT</i></li> </ul>
<b>Week #2</b> 29-May-2024	<ul style="list-style-type: none"> <li>• <i>Variables, Data Types and a review of Control Structures {Eloquent:"1,2"}</i></li> <li>• <i>Declared Functions {Eloquent:"3"}</i></li> <li>• <i>Hoisting and Closures {Eloquent: "3"}</i></li> <li>• <i>Introduction to Events {Eloquent: "15"}</i></li> </ul>
<b>Week #3</b> 5-June-2024	<ul style="list-style-type: none"> <li>• <i>Continuation/Working with Events</i></li> <li>• <i>CSS Selectors {Duckett: "10"}</i></li> <li>• <i>Function Expressions, Arrow Functions and Events</i></li> <li>• <i>Tables and Forms {Duckett: "6,7"}</i></li> <li>• <i>ES6 Modules</i></li> </ul>
<b>Week #4</b> 12-June-2024	<ul style="list-style-type: none"> <li>• <i>Bootstrap: Containers, Rows and Columns {Bootstrap}</i></li> <li>• <i>The Flexbox API {Flexbox}</i></li> <li>• <i>Pseudo-class and Pseudo-elements. See MDN: <a href="#">CSS/Pseudo-elements</a> &amp; <a href="#">CSS/Pseudo-classes</a></i></li> <li>• <i>CSS Media Queries {Frain: "3"}</i></li> </ul>
<b>Week #5</b> 19-June-2024	<i>Holiday (Juneteenth). We will not have class.</i>
<b>Week #6</b> 26-June-2024	<i>Midterm Examination</i>
<b>Week #7</b> 3-July-2024	<ul style="list-style-type: none"> <li>• <i>Data Structures: Array, Set and Map {Exploring: "18,19"}</i></li> </ul>

<i>Day of Week: Wednesday</i>	<i>Summer, 2024 Schedule</i>
	<ul style="list-style-type: none"> <li>• <i>Operations on data - with map(), reduce() and filter()</i></li> <li>• <i>Object Literals {Exploring: "14"}</i></li> <li>• <i>REST and Spread {Exploring: "10","11"}</i></li> </ul>
<b>Week #8</b> <i>10-July-2024</i>	<ul style="list-style-type: none"> <li>• <i>Promises {Eloquent: "11",Exploring: "25"}</i></li> <li>• <i>async and await</i></li> <li>• <i>Destructuring</i></li> </ul>
<b>Week #9</b> <i>17-July-2024</i>	<ul style="list-style-type: none"> <li>• <i>Asynchronous Communication (Ajax) with Axios and Fetch</i></li> </ul>
<b>Week #10</b> <i>24-July-2024</i>	<ul style="list-style-type: none"> <li>• <i>ES Classes and Object-oriented programming</i></li> <li>• <i>Introduction to Typescript</i></li> </ul>
<b>Week #11</b> <i>31-July-2024</i>	<ul style="list-style-type: none"> <li>• <i>Creating React Components with Hooks</i></li> <li>• <i>State and Effect</i></li> <li>• <i>React Router <a href="#">React Router</a></i></li> <li>• <i>Course Review</i></li> <li>• <i>Term Project Presentations</i></li> </ul>
<b>Week #12</b> <i>7-August-2024</i>	<i>Comprehensive Final Examination</i>