MET CS601
(Section A1 - Tuesday)

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

Office Hours

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

Classroom Location

KCB (Kenmore Classroom Building), 525 Commonwealth Avenue, Room 107.
https://maps.app.goo.gl/FXPQo9urjS9iJZn8A

Course Policies

- Do not allow yourself to swayed by the influence of AI technologies to do your homework. Do the assignments and the work by yourself.
- We do not work in groups in this course. All work is to be individually completed.
- 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.

Grading

- Homework: 10%
- Quizzes & Attendance: 10%
- Midterm Examination: 30%
- Term Project: 20%
- Comprehensive Final Examination: 30%

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
  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*
- *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=
  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=
  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
  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?crid=F1HSL17E93M4&keywords=beginning+react+with+hooks&qid=1682906825&sprefix=beginning+react+%2Caps%2C94&sr=1
- *Bootstrap*
  Tag: Bootstrap *https://getbootstrap.com/*

Spring, 2024 Schedule

Day of Week: Tuesday	*Topics*
Week 1 *23-January-2024*	• *Course expectations/planning* • *Your development environment (Using Visual Studio Code or IntelliJ)* • *Core HTML elements and their attributes {BenFrain: "1,2", Duckett: "1-4"}* • *Starting development with client-side Javascript* • *Introduction to the DOM and elements* • *Introduction to Version Control with GIT*
Week 2 *30-January-2024*	• *Variables, Data Types and Control Structures {Eloquent:"1,2"}* • *Declared Functions {Eloquent:"3"}* • *Hoisting and Closures {Eloquent: "3"}* • *Introduction to Events {Eloquent: "15"}*
Week 3 *6-February-2024*	• *Continuation/Working with Events* • *HTML Tables and Forms* • *CSS Selectors {Duckett: "10"}* • *Function Expressions, Arrow Functions and Events* • *Tables and Forms {Duckett: "6,7"}* • *ES6 Modules*
Week 4 *13-February-2024*	• *Bootstrap: Containers, Rows and Columns {Bootstrap}* • *The Flexbox API {Flexbox}* • *Pseudo-class and Pseudo-elements. See MDN: https://developer.mozilla.org/en-US/docs/Web/CSS/Pseudo-elements and https://developer.mozilla.org/en-US/docs/Web/CSS/Pseudo-classes* • *CSS Media Queries {Frain: "3"}*

Day of Week: Tuesday	*Topics*
Week 5 *20-February-2024*	• *Data Structures: Array, Set and Map {Exploring: "18,19"}* • *Operations on data with map(), reduce() and filter()* • *Object Literals {Exporing: "14"}* • *REST and Spread {Exploring: "10,"11"}*
Week 6 *27-February-2024*	• *Promises {Eloquent: "11",Exploring: "25"}* • *async and await* • *Destructuring* • *Review for the Midterm Examination*
Week 7 *5-March-2024*	*Midterm Examination*
Week 8 *12-March-2024*	*University Recess (Spring Break)*
Week 9 *19-March-2024*	• *Asynchronous Communication (Ajax) with Axios and Fetch*
Week 10 *26-March-2024*	• *ES Classes and Object-oriented programming* • *Design Patterns with Javascript*
Week 11 *2-April-2024*	• *Introduction to Typescript*
Week 12 *9-April-2024*	• *Creating React Components*
Week 13 *16-April-2024*	• *State and Effect with React* • *Using React Router (React Router)*

Day of Week: Tuesday	*Topics*
Week 14 *23-April-2023*	• *Course Review*
Week 15 *30-April-2024*	• *Term Project Presentations*
2-May-2024 - 3-May-204	*University Study Period*
7-May-2024	*Comprehensive Final Examination*