



Boston University Metropolitan College

CS401/601: Web Application Development

This course focuses on building core competencies in web design and development. It begins with immersion into HTML syntax and structure. Students are then exposed to Cascading Style Sheets (CSS). Lastly, fundamentals of the JavaScript language including object-oriented JavaScript, Ajax and JSON are covered. Prereq: MET CS 200, MET CS 231, MET CS 232 or MET CS 300. Or instructor consent.

Instructor: Andrew Sheehan asheehan@bu.edu

Office Hours: Schedule an appointment (Zoom video conferencing).

Physical Classroom: CAS 216 (College of Arts and Sciences)

Required Books *(Most are free/available online)*

HTML and CSS Design and Build Websites by Jon Duckett wtf.tw/ref/duckett.pdf	JavaScript: The Definitive Guide, by David Flanagan www.amazon.com/dp/B088P9Q6BB	Exploring ES6, by Dr. Axel Rauschmayer exploringjs.com/es6.html
Eloquent JavaScript, by Marijn HaverBeke eloquentjavascript.net/Eloquent_JavaScript.pdf	Bootstrap Documentation Bootstrap	

Course Policies

Homework and quizzes will not be accepted after the due date without consequences - you will have a lower grade. To be clear, if you hand in your work late, expect point loss(es).	Attendance is not part of your grade, but can be used as a compensating factor.
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Grading Policies

Homework 15%	Totally Random Quizzes - Given Throughout The Semester 15%	Term Project 25%	Midterm Examination 25%	Comprehensive Final Examination 25%
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Schedule (subject to changes)

Weeks (Tuesdays)	Topics	Readings
January 25 (Tuesday)	<ul style="list-style-type: none"> Course Introduction: Setting expectations Developer Tools: Text Editors and IDEs Core HTML Elements The Document Object Model ("DOM") Using the Chrome debugger Writing your first HTML page Beginning CSS 	Duckett: 1-5
February 1	<ul style="list-style-type: none"> Core HTML: Forms and Tables Introduction to Javascript Expressions, Javascript Data Types High-level review of Control Structures Built-in Objects: Window, Document, String and Date Introduction to Declared Functions Event Binding: DOMContentLoaded with addEventListener() Continuation of CSS 	Duckett: chapters 6,7 Flanagan: 1-5,11 Haverbeke: 3 developer.mozilla.org > The Window object developer.mozilla.org > The Document object developer.mozilla.org > Strings developer.mozilla.org > The Date object The DOMContentLoaded Event
February 8	<ul style="list-style-type: none"> Core HTML: Audio and Video Elements (Duckett: 9) Functions: Arrow, Anonymous and Expressions (Flanagan: 8) More with Events (Sheehan: Slides+Examples) The jQuery library (Sheehan (Slides + Hands-on)) jQuery Event Binding Scope and Hoisting Explained 	Duckett: 9 Flanagan: 8, 19 tutorialspoint.com > jQuery Review Expressions vs. Declared Scope Explained medium.com > More Scope Scope and Hoisting
February 15	<ul style="list-style-type: none"> Cascading Style Sheets (Duckett: 10) Using Selectors (Sheehan: Hands-on + Slides) Closures Introduction to Bootstrap The !important rule 	Duckett: 10 medium.com > Closures Article developer.mozilla.org > Closures Bootstrap css-tricks.com > About !important developer.mozilla.org > CSS_Selectors
February 22	President's Holiday: Monday classes held on Tuesday	
March 1	<ul style="list-style-type: none"> Flexbox CSS Floating, Visibility and Display CSS Media Queries 	Flanagan: 8, 15 css-tricks.com > Floating More Floating css-tricks.com > Flexbox
March 8	Spring Recess Week for Boston University	
March 15	<ul style="list-style-type: none"> Promises and Callbacks Using async and await 	Flanagan: 13 Using async and await developer.mozilla.org > Promises developer.mozilla.org > Async Reference developer.mozilla.org > Await Reference
March 22	<ul style="list-style-type: none"> Destructuring Rest and Spread Introduction to Ajax: XHR, jQuery, Fetch and Axios 	Flanagan: 6,9,15 developer.mozilla.org > Spread developer.mozilla.org > Rest and Spread github.com > axios developer.mozilla.org > Fetch
March 29	Midterm Examination	
April 5	<ul style="list-style-type: none"> Javascript Modules Import and Exporting Introduction to ES6 Classes 	Flanagan: 6,9,10 Professor Sheehan has his own lecture and code to review with you. developer.mozilla.org > Modules adamcowley.co.uk > Beginner's Guide to import/export medium.com > ES6 Classes
April 12	<ul style="list-style-type: none"> Array, Set and Map Function Chaining 	Flanagan: 7,11 developer.mozilla.org > Map developer.mozilla.org > Set tutorialspoint.com > Chaining with Classes dev.to > More on Chaining
April 19	<ul style="list-style-type: none"> Javascript Design Patterns 	digitalocean.com > Patterns
April 26	<ul style="list-style-type: none"> Introduction to ReactJS 	reactjs.org
May 3	Term Project Presentations	
May 10	Final Examination	