Boston University Metropolitan College

MET CS 401/601

MET CS 401/601: Web Application Development

The focus of this class is on HTML5, CSS 3.0+ and ES6 with a focus using ReactJS, as as client-side web framework. Students are highly encouraged to bring their laptops to every class. Most of our classes involve hands-on practice and experimentation.

Instructor

Andrew Sheehan, asheehan@bu.edu

Office Hours

Send an email with the details of where and when you would like to schedule time with your Professor.

Classroom Location

(EPC) Engineering Product Innovation Center, 750 Commonwealth Avenue, 2nd floor, Room 208

Course Policies

- Please, do your own work and complete it on time.
  Programming is best learned by doing, not just by reading/watching.
- Homework will not be accepted after the due date.
- Exams and quizzes cannot be made up or rescheduled.

Grading

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

Required eBooks

Most are free and/or online. Some of these books are recommended.

- Responsive Web Design
  Tag: Duckett " *HTML and CSS: Design and Build Websites* "
  Tag: Frain " *Responsive Web Design with HTML5 and CSS: Develop future-proof responsive websites using the latest HTML5 and CSS techniques (3rd Edition)(Kindle Edition)* "
- jQuery Core/UI Modules
  Tag: GoalKicker https://books.goalkicker.com/jQueryBook
  Tag: jQueryAPI https://api.jquery.com
- Javascript
  Tag: Exploring https://exploringjs.com/es6/index.html
  Tag: Eloquent https://eloquentjavascript.net/Eloquent_JavaScript.pdf
- React JS
  Tag: ReactRouterWeb Recommended "*https://v5.reactrouter.com/web/guides/quick-start*"
  Tag: Road2React Recommended "*The Road to React: Your journey to master React.js in JavaScript*" (2022 Edition) (Amazon Kindle Edition)
  Tag: HooksInAction Recommended "*React Hooks in Action: With Suspense and Concurrent Mode*" (2021 Edition) (Amazon Kindle Edition)
  Tag: LearnHooks Recommended "*Learn React Hooks: Build and refactor modern React.js applications using Hooks*", by Daniel Bugl, 2019 (Amazon Kindle Edition)
  Bugl, Daniel. Learn React Hooks: Build and refactor modern React.js applications using Hooks . Packt Publishing. Kindle Edition.
- Bootstrap
  Tag: Bootstrap https://getbootstrap.com/docs/5.2

Assignments

All assignments will be listed on our blackboard website: onlinecampus.bu.edu

Schedule

Weeks (Thursdays)	Topics	Readings
September 8	• HTML: Elements and Attributes • Javascript: Variables, Data Types, Expressions, Control Structures and Functions • Event Handling	Duckett: 1-9; Eloquent: 1,15
September 15 Short Quiz	• jQuery: Core API and UI Modules Overview • CSS: Selectors • Javascript: Hoisting and Closures	GoalKicker: 1,2, Duckett: 10 Exploring: 9
September 22 Short Quiz	• CSS: Floating, Visibility and Display • CSS Media Queries • Introducton to Bootstrap	Duckett: 13,15, Bootstrap: Intro, Frain: 3
September 29	• Data Structures: Array, Set and Map • JSON and XML • Parsing JSON	Eloquent: 4,6, 10, Exploring: Section IV (All)
October 6 Short Quiz	• Promises, async and await • Client/Server Communication: Ajax: Axios, Fetch and jQuery	Eloquent: 18, Exploring: 24, 25, GoalKicker: 16, Axios: https://axios-http.com/docs/intro
October 13 Short Quiz	• Classes and Objects • Modules • Destructuring	Exploring: 10,15,16, Eloquent: 4,6,10,
October 22	Midterm Examination	

Weeks (Thursdays)	Topics	Readings
October 29	• Fundamentals of ReactJS • Using JSX • Class Components • Using create-react-app	Road2React: "Fundamentals of React: Sections 1-5
November 3	• Continuation: Class Components • Working with State and Props • React Routing	Road2React: "Fundamentals of React: Sections 5-10, "State" and "Props"
November 10	• Functional Components with React Hooks • Working with useState and useEffect • React Routing with Hooks	LearnHooks: 1-4, HooksInAction: 1-3
November 17	• Styling • Data and Services • Using Forms • Testing	Road2React: Section: "Styling in React", Road2React: Section: "Forms in React", Road2React: Section: "Testing in React"
November 24	Thanksgiving Recess	
December 1	• Term Projects: Presentations (Group 1) • Course Review	
December 8	Term Projects: Presentations (Group 2)	
December 15	Comprehensive Final Examination	