MET CS 401/601 (All Sections)

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 your request of a time and place.

Classroom Location

See BULink for the latest info.

Course Policies

- Do your own work.
- Complete it on-time.
- Programming any language is learned by thinking, designing and lastly implementing. Not copying.
  On the job, you won't be able to copy from stackoverflow. So, don't start doing that in my class.
- Homework will not be accepted after the due date. The submission link will be removed after the due date.

Grading

- Homework: 20%
- Quizzes: 5%
- 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: Flexbox See: https://css-tricks.com/snippets/css/a-guide-to-flexbox/
  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)* "
- 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)
- Bootstrap
  Tag: Bootstrap https://getbootstrap.com/docs/5.3/getting-started/introduction/

Spring, 2023 Schedule

Day of Week: Tuesday	Topics
January 24	• Course expectations/planning • Your development environment • Core elements and attributes (Frain: 1,2)(Duckett: 1-4)
January 31	• Tables and Forms (Duckett: 6,7) • Variables, data types and control structures (Eloquent:1,2) • Functions (Eloquent:3) • Hoisting and Closures (Eloquent: 3) • Introduction to Events (Eloquent: 15)
February 7	• Introduction to CSS (Duckett: 10) • Bootstrap: Containers, Rows and Columns (Bootstrap: link) • CSS Flexbox (Flexbox)
February 14	• CSS 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 "Media Queries – Supporting Differing Viewports") and "Enter media queries"
February 21	President's Day - Monday Classes will be held on Tuesday
February 28	• Data Structures: Array, Set and Map (Exploring: 18, 19) • Object Literals (Exporing: 14) • REST and Spread (Exploring: 10, 11)

Day of Week: Tuesday	Topics
March 4th - March 12th	University Recess: Spring Break
March 14	• Promises (Eloquent: 11)(Exploring: 25) • async and await
March 21	• JSON and XML • Asynchronous Communication: Axios, Fetch • Midterm Exam Review
March 28	Midterm Examination
April 4	• ES6 Modules • Introduction to React, version 18.2
April 11	• ES6 Classes • useEffect and useState • Event Handling with React • Creating React Components (Road2React: 'Fundamentals of React')
April 18	• Using React Router, version 6.4
April 25	• React subscribers with services • Hands-on: Building a React application • Full Course Review
May 2	Term Projects: Presentations
May 9	Comprehensive Final Examination