



Course Syllabus: INFO 6150 - Seattle - 32527 - 03

Spring Semester 2025 - Fri

Instructor: Brett Ritter <b.ritter@northeastern.edu>

Course Description

This course covers the essentials of front-end web development in terms of User Interface/User Experience (UI/UX). This will NOT teach you to be a designer, but will give you the building blocks to work with designers or decide you want to learn more about Human/Computer Interaction (HCI). It will also not teach you all the steps to perform full web development (see my INFO6250 for that) but will give you the basis to be effective at UI/UX design and implementation for web development.

Required Tools and Course Textbooks

There is no textbook for the class, but a number of online articles and readings will be shared.

You will have to use git and github.com following the instructions given

Additional software (without cost) is required. Installation and configuration is your responsibility (Mac, Windows, or *nix)

Basic Requirements and Expectations:

Basic exposure to programming concepts (variables, functions, looping) is assumed

Many topics will be introduced in class but require you to perform additional research/experimentation

Students should ask questions where anything is unclear

A great deal of work will be done online, in and out of class

Topics Covered

Basic git use as a version control system for shared applications and development

How a web page is rendered in the browser

Fundamental HTML and CSS

Semantic HTML (using HTML5/Modern HTML)

Different approaches to styling with CSS, their pros and cons

Basic web design principles

Mobile-first

Responsive and adaptive design

Basic accessibility (a11y) concerns

Common UI patterns and their impact on UX

Introductory JavaScript (JS) to create interactions

Introductory React

What is NOT covered

In-depth JavaScript (JS)

We cover introductory Javascript and use it to create certain interactions. More advanced topics like web service calls (AJAX) are not covered in this course.

Backend coding

Backend web development is done in various languages and platforms to generate the front end code we learn in this course and/or to create web services to provide data to front end Javascript. To learn more about backend web development see my INFO 6250 course.

Specific Libraries - The course covers fundamentals to allow you to evaluate and use multiple libraries, but does not cover using specific libraries outside of Vite and React SQL/NoSQL usage or database architectures/maintenance

Expected Class Schedule (subject to change):

Section 1: Rendering Fundamentals

Schedule

Fri Jan 10

Fri Jan 17

Fri Jan 24

Fri Jan 31

Fri Feb 7

Topics

Class 1: Start of Web Basics Section (Section 1)

About the Course

- Intro to UX Engineering

- Core Course Concepts

- Github Repos

- Slack Workspace

- Do Not Copy Work Policy

Why Web UI/UX is Awesome

Introduction to the Web

- The roles of HTML/CSS/JS

- Navigation between pages and sites

- MDN, caniuse.com, The Browser Wars, evergreen browsers, the unreliability of not-that-old information

HTML Fundamentals

- Semantic HTML

Introduction to Git

Class 2: CSS Fundamentals

CSS Fundamentals

- Syntax, Rules, Properties

- Inheritance, Cascade

- Box Model and Box-sizing

- Display and Flow: Inline, Block, Inline-Block

- Responsive rendering

- Precedence, Specificity

CSS Approaches

- Semantic, BEM, Utility-first

Class 3: CSS Layout

CSS Layouts

- Flexbox

Grid

CSS Organization

Alphabetical vs Category

Responsive vs Adaptive vs Fixed

Mobile First

Common UI Concepts

Basic Wireframes and Mockups

Multi-Column Grids

Class 4: HTML Forms

HTML Forms

single column vs 2column format

Positioning

Dropdown Navigation Menus

Class 5: Animations and Transitions

Transforms

Transitions

Animations

Colors

Images, Icons, Fonts

Project Due: HTML and CSS (project1)

Thu Feb 13, 1159pm PT

Section 2: Browser Javascript

Schedule

Fri Feb 14

Fri Feb 21

Fri Feb 28

Topics

Class 6: Start of Javascript (Section 2)

Revisiting Class Names

Basic JS Syntax

Class 7: JS For Validation

More JS Syntax

JS Form Validation

Class 8: Accessibility (a11y)

Basic Accessibility (a11y)

Accordions and Tabs

Modal "Windows"

Carousels/Image Galleries

Project Due: Javascript (project2)

Thu Mar 13, 1159pm PT

Section 3: React Intro

Schedule

Fri Mar 14

Fri Mar 21

Fri Mar 28

Fri Apr 4

Fri Apr 11

Topics

Class 9: Start of React (section 3)

Intro to React

Using Vite for Setup

JSX

Components

State

Class 10: React Single Page Applications (SPA)

What is a SPA and why/why not?

SPA "Pages"

Mutation and State

Forms in React

Common UI Patterns in React

React Hook: useRef

Class 11:

React Hook: useEffect

Deeplinking

Class 12:

Progressive Enhancement

Revisiting Wireframes and Mockups

Deploying a Website

Class 13:

After INFO 6150: Now What?

Getting Hired

Your future Team

Agile SDLC

Final Projects Due

NO EXTENSIONS ON FINAL PROJECT Mon Apr 21, 1159pm PT

No class Fri Apr 25 (just Project due on Mon Apr 21, 1159pm PT)

Grading: I reserve the right to adjust based on your final demonstration of applied knowledge.

15% Assignments (lowest score ignored)

10% Quizzes (lowest score ignored)

25% Project 1: HTML and CSS

25% Project 2: With Javascript

25% Final Project: React SPA

Grading Scale

The letter grade for course is decided by the percentage of their total score compared to the possible score. This is the grading scale recommended by the department:

95-100% A

90-94.9% A

87-89.9% B+

84-86.9% B (yes, the threshold for an A is different)

80-83.9% B-

77-79.9% C+

74-76.9% C

70-73.9% C

69.9% or below F

Attendance Policy

Students registered in MGEN courses (INFO, CSYE, and DAMG) are allowed **a maximum of 2 absences per course, with 3 or more absences resulting in an automatic 'F' for that course. Students are expected to inform their instructors of any absences in advance of the class; if a student is sick long-term or experiences a medical issue that prevents class attendance, it is strongly encouraged that they speak with their Academic Advisor (coe-mgen-gradadvising@northeastern.edu) to learn more about the Medical Leave of Absence. Should a student anticipate being unable to attend 3 or more classes, they should discuss their situation with their Academic Advisor to explore other types of leave in accordance with the University's academic and global entry expectations. International students should review the Office of Global Services webpage to understand their visa compliance requirements.

Teaching Assistants (TAs) or Instructional Assistants (IAs) will be present at each class to collect student attendance.

Late Work Policy

Students are expected to complete the weekly assignments between classes and submit to their class Github repositories by the deadline (normally before the day of the next class) Students are expected to complete the weekly Canvas-based quizzes between classes and submit online before the deadline (normally before the day of the next class)

Students are expected to complete the course projects between classes and submit to their class Github repositories by the deadline (normally before the day of the next class)

Students must communicate with the faculty prior to the deadline if they anticipate work will be submitted late. Work submitted late without prior communication with faculty will not be graded. Late work submitted WITH prior communication is either granted an extension (no grade penalty) OR will be graded with a penalty and only graded after on-time assignments are graded, time-permitting. Any submission that was not granted an extension has no guarantee that it will be graded.

End-of-Course Evaluation Surveys

Your feedback regarding your educational experience in this class is particularly important to the College of Professional Studies. Your comments will make a difference in the future planning and presentation of our curriculum.

I, as the instructor, value all feedback and use it to shape further improvements in the course.

At the end of this course, please take the time to complete the evaluation survey at <https://neu.evaluationkit.com>. Your survey responses are completely anonymous and confidential. For courses 6 weeks in length or shorter, surveys will be open one week prior to the end of the courses; for courses greater than 6 weeks in length, surveys will be open for two weeks. An email will be sent to your Northeastern University Mail account notifying you when surveys are available.

Academic Integrity

A commitment to the principles of academic integrity is essential to the mission of Northeastern University. The promotion of independent and original scholarship ensures that students derive the most from their educational experience and their pursuit of knowledge. Academic dishonesty violates the most fundamental values of an intellectual community and undermines the achievements of the entire University.

As members of the academic community, students must become familiar with their rights and responsibilities. In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, examinations of whatever kind, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Students are responsible for learning the conventions of documentation and acknowledgment of sources in their fields. Northeastern University expects students to complete all examinations, tests, papers, creative projects, and assignments of any kind according to the highest ethical standards, as set forth either explicitly or implicitly in this Code or by the direction of instructors.

Go to <http://www.northeastern.edu/osccr/academic-integrity-policy/> to access the full academic integrity policy.

MGEN Student Feedback

Students who would like to provide the MGEN unit with anonymous feedback on this particular course, Teaching Assistants, Instructional Assistants, professors, or to provide general feedback regarding their program, may do so using this survey:

https://neu.co1.qualtrics.com/jfe/form/SV_cTIAbH7ZRaaW0Ki

University Health and Counseling Services

As a student enrolled in this course, you are fully responsible for assignments, work, and course materials as outlined in this syllabus and in the classroom. Over the course of the semester if you experience any health issues, please contact UHCS.

For more information, visit <https://www.northeastern.edu/uhcs>.

Student Accommodations

Northeastern University and the Disability Resource Center (DRC) are committed to providing disability services that enable students who qualify under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act Amendments Act (ADAAA) to participate fully in the activities of the university. To receive accommodations through the DRC, students must provide appropriate documentation that demonstrates a current substantially limiting disability.

For more information, visit <https://drc.sites.northeastern.edu>.

Library Services

The Northeastern University Library is at the hub of campus intellectual life. Resources include over 900,000 print volumes, 206,500 e-books, and 70,225 electronic journals.

For more information and for education specific resources, visit <https://library.northeastern.edu>.

24/7 Canvas Technical Help

For immediate technical support for Canvas, call 617-373-4357 or email help@northeastern.edu

Canvas Student Resources: <https://canvas.northeastern.edu/student-resources/>

For assistance with my Northeastern e-mail, and basic technical support: Visit ITS at

Diversity and Inclusion

Northeastern University is committed to equal opportunity, affirmative action, diversity, and social justice while building a climate of inclusion on and beyond campus. In the classroom, members of the University community work to cultivate an inclusive environment that denounces discrimination through innovation, collaboration, and an awareness of global perspectives on social justice.

Please visit <http://www.northeastern.edu/oidi/> for complete information on Diversity and Inclusion

Title IX

Title IX of the Education Amendments of 1972 protects individuals from sex or gender-based discrimination, including discrimination based on gender-identity, in educational programs and activities that receive federal financial assistance.

Northeastern's Title IX Policy prohibits Prohibited Offenses, which are defined as sexual harassment, sexual assault, relationship or domestic violence, and stalking. The Title IX Policy applies to the entire community, including male, female, transgender students, faculty, and staff.

In case of an emergency, please call 911.

Please visit <https://www.northeastern.edu/ouec> for a complete list of reporting options and resources both on- and off-campus.