

Course Syllabus: INFO 6150 - Online - 17658 - 05

Web UI/UX

Fall Semester 2025 - Tue

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 that are not covered in that course.

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

Section 1 Schedule

- Tue Sep 30

- Tue Oct 7
- Tue Oct 14
- Tue Oct 21
- Tue Oct 28

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 2 column format
- Positioning
- Dropdown Navigation Menus

Class 5: Animations and Transitions

- Transforms
- Transitions
- Animations
- Colors
- Images, Icons, Fonts

Project Due: HTML and CSS (project1)

Mon Nov 3, 11:59pm

Section 2: Browser Javascript

Section 2 Schedule

- Tue Nov 4
- Tue Nov 11 (no class)
- Tue Nov 18

Section 2 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)

Mon Nov 24, 11:59pm

Section 3: React Intro

Section 3 Schedule

- Tue Nov 25
- Tue Dec 2
- NO WEEK 11
- NO WEEK 12
- NO WEEK 13
- NO WEEK 14

Section 3 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 Dec 8, 11:59pm

No class Tue Jan 6 (just Project due on Mon Dec 8, 11:59pm)

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) 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/uhrs>.

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 <https://its.northeastern.edu> Email: help@northeastern.edu ITS Customer Service Desk: 617-373-4357

Outreach, Engagement, Belonging

Northeastern University is committed to fostering a community of belonging, which is essential to the advancement of Northeastern University's mission of teaching and research. Our university is stronger as a result of the varied backgrounds, experiences, and perspectives that all members of our global community bring to the pursuit of knowledge. Embracing this pluralism is not the work of one office, department, or academic unit. It is a shared responsibility that spans disciplines and boundaries. By harnessing the power of our differences, we will continue to light the path to bold new ideas and life-changing discoveries.

It is my intention that students from all backgrounds and perspectives will be well served by this course, and that the diverse experiences that students bring to this class will be viewed as an asset. I welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, socioeconomic background, family education level, ability – and other visible and nonvisible differences. All members of this class are expected to contribute to a respectful, welcoming and belonging environment for every other member of the class. Your suggestions are encouraged and appreciated.

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.