



# INFO 6150 Web Design and User Experience Engineering

## Course Information

Course Title: Web Design and User Experience Engineering  
Course Number: 6150  
Term and Year: Fall 2024  
Credit Hour: 4  
CRN: 32924  
Course Format: In-Class

## Instructor Information

Full Name: Joao Saffran  
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Office Hours: TBD

## Course Description

Introduces the fundamental concepts behind the web, web development and its challenges. This course will focus on developing web applications using HTML/CSS/Javascript based technologies along with best practices and design principles. Designed to introduce Web Interface Development development. Topics include HTML, CSS, Javascript, React, Browser Pipelines, A11y (accessibility), SEO Topics, Web UI Performance Topics, basic web security topics.

## Course Learning Outcomes

*Learning outcomes common to all College of Engineering Graduate programs: 1. An ability to identify, formulate, and solve complex engineering problems. 2. An ability to explain and apply engineering design principles, as appropriate to the program's educational objectives. 3. An ability to produce solutions that meet specified end-user needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.*

*The Information Systems Program accepts students of different engineering backgrounds with minimum programming skills and produces first class Information Systems engineers that operate at the intersection of real-world complexity, software development, and IT management. Graduating students will be able to construct end-to-end advanced software applications that meet business needs.*

*Specific Learning Outcomes for the Information Systems program:*

- 1. Create a strong technical foundation through diverse, high-level courses*
- 2. Built crucial interpersonal skills needed to succeed in any industry*
- 3. Foster a deep level of applied learning through project-based case studies*

## Required Tools and Course Textbooks.

CSS - <http://shop.oreilly.com/product/0636920012726.do>

**Course Schedule/Topics Covered.**

- 1. Web Concepts
  - HTTP Core Concepts
  - The Browser and the Rendering Pipeline
  - Intro to Git
- 2. Structuring Content
  - Structuring Content
    - HTML 5
      - Text Content
      - Multimedia Content
      - Forms and Inputs
      - Tables
    - Tags and Semantics
    - SEO Topics
- 3. Styling Content
  - Styling content
    - CSS
      - Styling
      - Positioning
      - Responsiveness
      - Animations
  - A11y (accessibility)
  - CSS Approaches:
    - Material UI
    - Tailwind CSS
    - SCSS
- 4. Interactivity
  - JavaScript Syntax
  - DOM Manipulation
  - Fetch and Interacting with APIs
  - Async programming
  - State Management and Web APIs
  - Security and Vulnerabilities
- 5. Modern Web Development
  - React
    - JSX
    - Components
    - Hooks
    - State Management
    - Context
    - Rendering: SSR and CSR
    - Navigation/Routes
    - Redux/Zustand

<b>Week</b>	<b>Date</b>	<b>In Class Topic</b>	<b>Assignment Due</b>
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1	09/10	Class Introduction/Web Concepts	09/24
2	09/17	Web Concepts	09/24
3	09/24	HTML	10/22
4	10/01	HTML	10/22
5	10/08	-	10/22
6	10/15	-	10/22
7	10/22	CSS	11/05
8	10/29	CSS	11/05
9	11/05	JS	11/26
10	11/12	JS	11/26
11	11/19	JS	11/26
12	11/26	React	12/10
13	11/27	React	12/10
14	12/03	React	12/10
15	12/10	React	12/10

### Assignment Grading

Assignments and Projects: 70%

**Mid-term:** 15%

**Final:** 15%

### Grading Scale

95-100% A	87-89.9% B+	77-79.9% C+	69.9% or below F
	84-86.9% B	74-76.9% C	
90-94.9% A-	80-83.9%B-	70-73.9% C-	

### Attendance/Late Work Policy

#### 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](mailto: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 must submit assignments by the deadline in the time zone noted in the syllabus. 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.

## End-of-Course Evaluation Surveys

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

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](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/uahcs>.

## **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>  
Network Campus Library Services: [Northeastern University Library Global Campus Portals](#)

## **24/7 Canvas Technical Help**

For immediate technical support for Canvas, call 617-373-4357 or email [help@northeastern.edu](mailto: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](mailto:help@northeastern.edu)

ITS Customer Service Desk: 617-373-4357

## **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.