



Northeastern University

College of Engineering

INFO 6150 Web Design and User Experience Engineering

Course Information

Course Title: Web Design and User Experience Engineering

Course Number: INFO 6150

Term and Year: Spring 2022

Credit Hour: 4

Course Format: On-Ground

Instructor Information

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Course Prerequisites

Graduate Level CSYE 6200 Minimum Grade of B- or Undergraduate Level INFO 5100 Minimum Grade of B- or Graduate Level INFO 5100 Minimum Grade of B-

Course Description

Introduces the fundamentals of modern web development, design patterns, and frameworks. This course will focus on developing complex web applications using Javascript based technologies along with best practices and design principles. Designed to develop expertise in Single Page Application (SPA) development. Topics include HTML, CSS, Javascript, ES6, RxJS, Reactjs, Redux and React Router.

Standard 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*

Grading:

Assignments: 40% Mid-term & Final: 20% Final Project: 40%

Note: Late submission leads to direct zero.

Lecture Details:

Lecture 1: Introduction to HTTP, Unix shell, Git

Lecture 2: HTML Basics- Document Metadata, Content Sectioning, Text Content, Image, Forms, & Table

Lecture 3: CSS - Basics, Selectors, values & units, cascade & inheritance, box model

Lecture 4: CSS Position, Grid Layout, and SCSS

Lecture 5: Introduction to Javascript

Lecture 6: DOM, Event handling and XMLHttpRequest

Lecture 7: Promise, RxJS, RegExp, & Webpack 5

Lecture 8: MVC architecture, Domain Driven Design and MongoDB

Lecture 9: REST APIs, and Nodejs

Lecture 10: Introduction to Typescript & Reactjs

Lecture 11: Redux & React Router

Lecture 12: Micro-frontend using Module Federation

Reference Books:

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

JavaScript - <https://ericelliottjs.com/product/programming-javascript-applications-ebook/> REST - <http://shop.oreilly.com/product/9780596805838.do>

Some specific guidelines for this course:

Midterm and Final exams are individual effort and collaboration of any kind would be considered a violation.

For group activities, such as assignments and in class discussion, you are strongly encouraged to work with the other members of your group. You are also encouraged to discuss with others outside your group provided

that the discussion does not result in an exchange of solutions or partial solutions. You can talk about the course material, the problem, general approaches to the problem, but not specific details of the solution. You cannot share your code in any form with other teams.

All code delivered as part of assignments must be “original” i.e. authored by members of your team. You cannot use code found on sites such as stackoverflow.com. You are however permitted to use code snippets that may be used during lectures or 3rd party open source libraries. If you use a 3rd party library, it must be listed in the README for your assignment. You can review NEU’s Academic Integrity policy [here](#).

End-of-Course Evaluation Surveys

Your feedback regarding your educational experience in this class is very important to the College of Professional Studies. 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 HuskyMail 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.

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 <http://www.northeastern.edu/drc/getting-started-with-the-drc/>.

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 <http://subjectguides.lib.neu.edu/edresearch>.

24/7 Blackboard Technical Help

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

Within Blackboard, open a support case via the red support button on the right side of the screen, click Create Case

myNortheastern, e-mail, and basic technical support

Visit the [Information Technology Services \(ITS\) Support Portal](#)

Email: 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, member 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 www.northeastern.edu/titleix for a complete list of reporting options and resources both on- and off-campus.