

**Course Number:** IS219

**Course Title:** Advanced Website Development

**Section:** 002

**Semester:** Spring 2019

**Date & Time:** MON: 1:00PM – 3:55PM

**Location:** GITC 2302

**Credits:** 3

**Contact Hours:** 3 Hours Face-to-Face

**Instructor Information:**

Name: Michael Lee, PhD

Office: 5111 GITC

Phone Number: (unlisted)

Email (preferred): mjlee@njit.edu

**Office Hours:**

By Appointment

**Course Materials**

Haverbeke, M. (2015). *Eloquent javascript: A modern introduction to programming*. San Francisco: No Starch Press.

Print ISBN-13: 978-1593275846

\*(Available for free online: <http://eloquentjavascript.net>)

**Catalog Description**

Prerequisites: (IS 117 or IT 202) and (CS 100, CS 113, or CS 115). This course discusses the concepts and skills required to plan, design and build advanced websites, with a focus on sophisticated user interaction enabled by programming the web browser (such as Internet Explorer or Chrome). Such programming is known as client-side scripting. These interactive websites utilize forms to gather user inputs, and vary both the content and display of the webpages based on the current user tasks and preferences. This includes designing and dynamically changing tabs and menus, as well as expanding and contracting sections of pages. Students will develop a thorough understanding of website usability (designing effective sites that people like, security and user privacy, browser capability (ensuring websites work on every major web browser), and the tools and skills that web developers use to add interactive features to websites. These skills include Javascript (for programming interactive features), the Document Object Model or DOM (specifying the internal structure of web pages), JQuery (to access information utilizing this internal structure, create animations and generally streamline Javascript), browser variables (providing information about the browser characteristics), HTML input forms, form validation (ensuring correctness of user input), securing user input (to ensure user privacy), cookies (tracking user information), basic communication with the web server (which processes the information users input into forms), and AJAX ( which integrates many of these technologies). The course will be taught in a lab to ensure hands-on experience and will include substantial design and development projects.

Prerequisites: (IS 117 or IT 202) and (CS 100, CS 113, or CS 115).

**Learning Outcomes**

1. Students will be able to create an application using advanced HTML5, CSS3, and JavaScript
2. Students will be able to create an interaction design using a wireframe mockup
3. Students will be able to write a specification for a user interaction within a web application
4. Students will be able to demonstrate fundamental concepts in JavaScript such as DOM manipulation and events
5. Students will be able to demonstrate the ability to collaborate using source code management software
6. Students will be able to describe and implement basic design patterns found in JavaScript such as closures and promises
7. Students will be able to demonstrate synchronous and asynchronous client server communication using JavaScript

### Grading Category Weights

3 Projects: 40%  
3 Exams: 35%  
Codecademy Homework: 15%  
Participation: 10%

### Grading Scale

|                    |                    |
|--------------------|--------------------|
| <b>A:</b> 90 - 100 | <b>C:</b> 70 - 77  |
| <b>B+:</b> 88-89   | <b>D+:</b> 68 - 69 |
| <b>B:</b> 80 - 87  | <b>D:</b> 60 - 67  |
| <b>C+:</b> 78-79   | <b>F:</b> 0 - 59   |

Incompletes are only given for extenuating and documented medical, or personal issues.

### Project Rubric

See the moodle website for project point breakdowns. In general, your projects will be evaluated as:

- 3 – Above Average Performance** – Thoughtful Visual Design and/or Technically Advanced
- 2 – Average Performance** – Demonstrates all major project requirements
- 1 – Below Average Performance** – Submitted with obvious technical and/or visual deficiencies

### Homework Rubric

- 1 - Completed on time**
- 0 - Not Completed on Time**

### Late Project and Homework Policy

All projects and homework must be turned in on time, or you will lose one point for each week that project or homework is late. **Note: A homework that is 1 week late loses all points.**

### Codecademy

Codecademy is a popular tool for learning HTML, CSS, and JavaScript. In this course you are required to complete two codecademy courses. There is a codecademy assignment posted in Moodle, this is where you should submit a link to your codecademy user profile. The user profile displays badges for completing parts of each course and you will receive a grade based on your completion percentage of the the courses.

### Attendance

Attendance will be taken for each class meeting. You are permitted **three** unexcused absence for the class; however, each of the next two subsequent unexcused absence will result in a 10% percent reduction in your final grade. Missing six or more courses will result in an automatic 'F' in the course. Only the dean of students can officially excuse your absences; any excuse of the instructor/professor of the course counts as an **unexcused absence**. Attendance is worth 10% of your final grade.

### Academic Integrity Policy

My expectation is that each person will complete original work for this course and will not copy from fellow students or tutorials online. It is OK to refer to tutorials online; however, you will be considered in violation of the NJIT honor code by submitting work found online. Any violations of the honor code will be referred to the Dean of Students for investigation and possible disciplinary action. For more information about the NJIT honor code, you should refer to this document:

<http://www.njit.edu/academics/pdf/academic-integrity-code.pdf>

Spring 2019 Calendar (tentative; please check Moodle for the most up to date schedule).

| Week        | Content  | Project Due Date                                    | Codecademy  | Exam Dates   |
|-------------|--|---|---|--|
| 1           | Javascript,<br>Bootstrap,<br>jQuery,<br>Javascript<br><br>github<br>heroku |   | <b>JavaScript</b><br>(2-3 sections due each week) |  |
| 2           |  | <b>Project 1</b><br>Assigned Week 2<br>Due Week 5   |   |  |
| 3           |  |   |   |  |
| 4           |  |   |   |  |
| 5           |  |   |   | <b>Make An Interactive Website</b><br>(2-3 sections due each week) |
| 6           |  |   |   |  |
| 7           |  | <b>Project 2</b><br>Assigned Week 7<br>Due Week 11  |   |  |
| Break       |  |   |   |  |
| 9           |  |   |   | <b>Exam 2</b><br>Week 9  |
| 10          |  |   |   |  |
| 11          |  |   |   |  |
| 12          |  | <b>Project 3</b><br>Assigned Week 12<br>Due Week 15 |   |  |
| 13          |  |   |   |  |
| 14          |  |   |   |  |
| 15          |  |   |   |  |
| Finals Week |  |   |   | <b>Final Exam</b><br>Finals Week                                   |