
HOUSECS 59.03: WEB DEVELOPMENT AND SOCIETY
Fall 2017

INSTRUCTORS:

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CLASS MEETINGS: Wednesdays (7–9pm), Few FF101

TEXT:

HTML and CSS: Design and Build Websites and *JavaScript and jQuery: Interactive Front-end Web Development* by John Duckett

Supplementary reading material: articles from current media sources such as *The New York Times*, *The Washington Post*, *The New Yorker*, and *TechCrunch*

BULLETIN DESCRIPTION:

Introduction to topics in web application development, and the role of web development in modern society. The course will be geared towards non-computer science and non-quantitative science majors and will include learning specific web development concepts (listed below) and their existing and potential applications to modern society.

Web development concepts studied will include: client and basic server-side development (including writing code in HTML, CSS, JavaScript, and PHP), usage of version control systems such as Git (and interfaces such as GitHub), and introduction to database management systems such as SQLite.

DUKE COMMUNITY STANDARD:

Students are expected to adhere to the Duke Community Standard. On each assignment, students must reaffirm commitment to the Duke Community Standard. If a student is responsible for academic dishonesty on a graded item in this course, then the student will have an opportunity to admit the infraction and, if approved by the Office of Student Conduct, resolve it directly through a faculty-student resolution agreement; the terms of that agreement would then dictate the consequences. If the student is found responsible through the Office of Student Conduct and the infraction is not resolved by a faculty-student resolution agreement, then **the student will receive a failing (unsatisfactory) grade for the final grade in the course.**

COURSE ASSIGNMENTS:

Lectures will be focused on developing programming skills and techniques, and required weekly readings will consist of reading from the textbooks listed above and/or several articles from *The New York Times*, *The Washington Post*, *The New Yorker*, *TechCrunch*, and other news sources describing the impact of web development on modern society. There will be three meetings where, instead of a lecture, we will have a discussion-based seminar of the article readings. A grade of satisfactory in this course requires satisfactory completion of **all** assignments in this course, including written and programming assignments, weekly readings, and attendance.

PROGRAMMING ASSIGNMENTS:

There will be four (4) programming assignments throughout the semester. Programming assignments will be due on the assigned dates on the calendar below and should be completed

before the start of class. The policy for turning in late assignments is detailed below. Each programming assignment will build up on topics covered in previous lectures, focusing on the concepts covered in more recent lectures. A specific rubric will be posted for each assignment.

- Students may work on programming assignments with a maximum of one (1) other individual in the class. However, both individuals should contribute *equally* to the assignment and understand *all* parts of the code written.
- Students are expected to write their adherence to the Duke Community Standard in a README for every assignment. Students are allowed to consult others outside of their group—limited to Duke students and faculty—about the assignment only in a general way, but not actually provide/receive code to/from other students. If assistance is received from other individuals (excluding the instructors), it should be cited in the README. **Students should be prepared to explain any program code they submit.**
- It is acceptable to use *small* pieces of outside code (found on the Internet or otherwise) due to the nature of this course—but not entire methods or programs. Using open source libraries and packages is allowed. If you are concerned whether using a piece of code is within the Duke Community Standard, please ask. *All code used should be properly cited.*
- **All submissions are subject to automated plagiarism detection.** Assignments will be randomly checked using the MOSS Plagiarism Detector.

FINAL PAPER:

House courses require one or more scholarly papers totaling approximately 1500 words in length or the equivalent of five (5) double spaced pages. A final paper of this length will be due at 12pm noon on Friday, December 8, 2017. The topic of this paper will be a proposal detailing an innovative application of web development to another field of the student's choice. It should include (1) a description of the problem being solved, (2) the application's effectiveness in solving the problem, and (3) a strong technical understanding of how the skills learned throughout the semester in this class can be applied to the application. Students are welcome—and encouraged—to utilize the Writing Studio when writing their papers.

LATE OR MISSED WORK:

Students are expected to arrive to class punctually and to submit all assignments on time. However, students will be allowed to submit up to one (1) programming assignment up to a week late without penalty. No programming assignments will be accepted after a week late. This extension does not apply to the final paper, whose due date is fixed.

Accommodation will be granted by the instructor via pre-arrangement, which requires that the situation qualify for one of four strictly defined types of university-sanctioned exceptions: personal emergencies or tragedies, an incapacitating illness, a religious holiday, or varsity athletic participation. In these instances, it is the student's responsibility to be aware of and follow all relevant university-wide policies, including appropriate notification of the instructor.

ATTENDANCE:

Students are required to attend at least 11 classes to receive a passing (satisfactory) grade in the course, and two (2) of these must be a discussion-based seminar.

GRADING:

House courses are graded only on a satisfactory/unsatisfactory basis. In order to receive a passing (satisfactory) grade, in addition to satisfying the attendance requirement, students must complete **all** assignments of this course with a total average of 70% or greater.

CLASS SCHEDULE:*Readings from HTML and CSS***Week 1 (August 30):** Course Overview, Introduction to HTML (Structure and Basics)

Readings: (none)

Due: (none)

Week 2 (September 6): Version Control Systems, Review of HTML*

Readings: Introduction, Chapters 1-5

Due: (none)

Week 3 (September 13): HTML Tables and Forms

Readings: Chapters 6-7

Due: (none)

Week 4 (September 20): Introduction to CSS (Structure and Basics)

Readings: Chapters 8, 10-12

Due: Programming Assignment #1

Week 5 (September 27): *Discussion-based Seminar #1*

Readings: articles TBD (approx. 50 pages)

Due: Seminar #1 Preparation

Week 6 (October 4): HTML Document Object Model*

Readings: Chapters 13, 17

Due: (none)

Week 7 (October 11): Advanced CSS and Layout

Readings: Chapters 14-16

Due: (none)

*Readings from JavaScript and jQuery***Week 8 (October 18):** Introduction to JavaScript

Readings: Introduction, Chapters 1-2

Due: Programming Assignment #2

Week 9 (October 25): JavaScript Functions, Decisions, and DOM

Readings: Chapters 3-4

Due: (none)

Week 10 (November 1): *Discussion-based Seminar #2*

Readings: articles TBD (approx. 50 pages)

Due: Programming Assignment #3

Seminar #2 Preparation

Week 11 (November 8): JavaScript Events, Introduction to jQuery*

Readings: Chapters 5-6

Due: (none)

Week 12 (November 15): Review of jQuery

Readings: Chapter 7

Due: (none)

Week 13 (November 29): Introduction to PHP and Databases (SQLite)

Readings: (none)

Due: Programming Assignment #4

Week 14 (December 6): *Discussion-based Seminar #3*

Readings: articles TBD (approx. 50 pages)

Due: Seminar #3 Preparation

Final Paper on Friday, 12/8 noon

*The Faculty Sponsor for the course, Prof. Salman Azhar, from the Department of Computer Science, will attend these meetings.

This syllabus was adapted from Prof. Lillian B. Pierce's MATH 165FS syllabus and Prof. Owen L. Astrachan's COMPSI 201 syllabus.