CMSC 122 —Introduction

UMD Department of Computer Science

Fall 2016

Intended Audience—Who should take this class?

Anyone interested in computing and how it impacts their lives here and in the broader context.

- Presupposes *no previous experience* with computer programming..
- Provides both conceptual and applied knowledge of computing for the generalist.
- Enables you to *produce* your own content and to effectively consume content produced by others.
- Enables you to think *critically* about technology.

Learning Outcomes

Blends technical learning with critical thinking to enable you to meaningfully interact with Internet-based applications. This requires learning about:

- Technology: in particular, computing, networks and applications (programs).
- The "elements" of any computing application: algorithm, design, testing and evolution.
- The cultural and social implications of producing web-based content.
- Consuming web-based content effectively and critically.

Instructional approach

1. Understand the elements of a network and how they interact;
2. Learn enough "mark-up" language to create "static" web content;
3. Learn to use"style sheets" to control the look and feel of your web pages.
4. Use a "scripting language" to make your pages "responsive" (dynamic) and useful.
5. Apply these learning outcomes to your own needs/interests.
6. Use this knowledge to think (read/write) critically about this technology.

Instructional Components

These are elements by which you are assessed in this class:

1. Projects: These require that you write *code* that is tested within a browser, usually Chrome.
2. Research Paper: What is the role of *ethics* in our activities on the Internet?
3. Midterm Exams: Two exams–given in Lecture. Note that you must take your midterm exam in the section for which you registered.
4. Final Exam: Given on 14 December at 4pm to 6pm–in a location to be announced.

Order of Instruction

Recitations are done in-class. While not absolute: the general order of instruction proceeds as

Mondays	Major concepts and/or programming constructions are introduced.
Wednesdays	Students should bring laptops and be prepared to work on hand-out materials.
Fridays	Summary of instruction begun on Monday.

Naturally, this order of instruction varies on weeks containing a holiday and/or midterm exams.

Required skills . . .

Focus on

1. Learning mark-up, description, and a scripting language. (Elements of Web-Development)
   - Requires facility with formal language–syntax.
   - Requires *logical* approach.
   - Requires *abstract* reasoning!
2. Learning how to write a university-level research paper:
   - Requires learning how to actively read peer-reviewed resources;
   - Requires attribution–using proper citation throughout.
   - Requires that you demonstrate comprehension, analysis, and *synthesis* in order to develop an idea in a well-defined context.

Rough agenda

Early Weeks Define general entities, servers, clients, etc. Learn HTML, a mark-up language. Begin "background" reading (papers necessary for research paper assignment).

Middle Instruction Explore the CSS description language; focus on aesthetic concerns. This phase concludes with the introduction of a general-purpose scripting language, JavaScript.

Late Instruction Refining JavaScript skills. Event-driven models. Major paper writing skills/expectations reviewed. Object (DOM) as well (JavaScript) object models introduced.

Highlights from Syllabus

Read the syllabus before the next class meeting. Some highlights:

- Two in-class Midterms; must be taken in the section for which you are registered.
- Research paper due last week of November.
- Final Exam given 4-6pm on 14 December.
- Students with Accommodations: letters must be brought to lecture and signed within first two weeks of class.
- You are responsible to set-up your own computing environment.
- No late assignments accepted without documentation, e.g., Physician's letter required for illness, etc.

Work to succeed . . .

Success in this course requires:

- Consistent attendance.
- Humility: don't assume that what you do not understand is unimportant.
- Discipline: Pay attention to the details and set aside a time and place every day to devote to what we do in lecture.
- Proactivity: Do NOT procrastinate.

Slow and steady wins the race. Explosive and heroic last-minute efforts often lead to bad outcomes.