Boston University Department of Computer Science
CAS CS 103: Introduction to Internet Technologies and Web Programming
Spring 2017 Syllabus

Schedule and Instructors:

Lecture: Mon., Wed. 6:30-7:45 pm
CAS 211
685-725 Comm. Ave., 2nd floor

Lab: 3 sections, all in EMA 304
730 Comm. Ave., 3rd floor
• Tues 12:20-1:10 pm (section A2)
• Tues 3:35-4:25 pm (section A3)
• Tues 6:50-7:40 pm (section A4)

Instructor: Susan Worst, sworst@bu.edu
Department of Computer Science
Office hours in PSY 228A
64 Cummington Mall, 2nd floor
• Mon 8:15-9 pm
• Tue 5:15-6:45 pm
• Wed 8:15-9 pm

Teaching fellow: Vahid Azadeh-Ranjbar, email TBD
Department of Computer Science
Office hours in EMA 302
730 Comm. Ave., 3rd floor
• Mon 9:30-10:30 am
• Tue 9:30-11:30 am

Course website: https://learn.bu.edu/

Course Description:

CS 103 is an introduction to the World Wide Web. We will learn Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS), two fundamental languages of the Web, and introduce two popular Web programming languages, JavaScript and PHP. Each student will create his/her own website over the term. As we learn new techniques and technologies, we will explore issues of accessibility, usability, findability, performance, and security for each.

CS 103 has no prerequisites; it is intended for non-technical students interested in the web as well as computer-savvy students interested in deepening their knowledge. CS 103 earns math/computer science Divisional Studies credit.

Preliminary Lecture Outline:

1. Web fundamentals
   a. Domain names and web hosting
   b. Web usability and accessibility
   c. Internet security
   d. Copyright and Creative Commons licenses

2. Static web pages
   a. HTML: the language of the web
   b. CSS: applying style and layout
   c. Character encoding: the global web
   d. New developments: HTML5, CSS3, and responsive design

3. Dynamic web pages:
   a. What makes a web page dynamic?
   b. Web programming languages
   c. Content management systems

4. Web influence and group behavior:
   a. PageRank: the original Google algorithm
   b. Search engine optimization
   c. Web analytics
Required Course Materials:

1. CS 103 does not have a paper textbook. We will draw heavily on these online resources:

Readings from these resources and others will be posted on the Assignments page of the CS 103 Blackboard site (https://learn.bu.edu) each week.

2. Each student must register a domain name and purchase web hosting that allows you to upload your own HTML and image files and install WordPress. We recommend shared hosting (https://www.dreamhost.com/hosting/shared/) as a relatively inexpensive option; you can buy 6 months of web hosting including a domain name (e.g., "yournamehere.com") for $65-$80 total. Each student is responsible for registering his/her own domain name and purchasing his/her own web hosting; we will review how during the first week of class.

3. We will use the TurningPoint Student Response System for polling during class. Each student must either purchase a clicker and a license from the BU Bookstore or install the ResponseWare software on his/her mobile device and purchase a license online. In addition, all students must register their licenses and devices in Blackboard, and bring the device to every class. See the Course Materials page of the CS 103 Blackboard site (https://learn.bu.edu) for detailed instructions.

4. The computers in the Computer Science Undergraduate Lab (EMA 302, 730 Commonwealth Avenue), which is open daily except on University holidays, have all software necessary to complete lab assignments. See http://www.bu.edu/cs/resources/laboratories/undergraduate-lab/ for the lab hours.

Because the Undergraduate Computer Science Undergraduate Lab has all of the software you need, you do not need to work on your own computer to complete assignments. Information about optional free software will be provided on the Course Materials page of the CS 103 Blackboard site (https://learn.bu.edu).

Lab Schedule:

<table>
<thead>
<tr>
<th>Lab Date</th>
<th>Topic</th>
<th>Lab Assignment Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tues Jan 24</td>
<td>Lab 0: Domain name registration, web hosting, and WordPress installation</td>
<td>Tues Jan 31, noon</td>
</tr>
<tr>
<td>Tues Jan 31</td>
<td>Lab 1: Intro to Hypertext Markup Language (HTML), part 1</td>
<td>Tues Feb 7, noon</td>
</tr>
<tr>
<td>Tues Feb 7</td>
<td>Lab 2: Introduction to HTML, part 2 (images and tables)</td>
<td>Tues Feb 14, noon</td>
</tr>
<tr>
<td>Tues Feb 14</td>
<td>Lab 3: Introduction to Cascading Style Sheets (CSS)</td>
<td>Tues, Feb 28, noon</td>
</tr>
<tr>
<td>Tues Feb 21</td>
<td>Lab does not meet (BU Monday)</td>
<td>--</td>
</tr>
<tr>
<td>Tues Feb 28</td>
<td>Lab 4: Introduction to Web page layout</td>
<td>Tues, Mar 14, noon</td>
</tr>
<tr>
<td>Tues Mar 7</td>
<td>Lab does not meet (spring break)</td>
<td>--</td>
</tr>
<tr>
<td>Tues Mar 14</td>
<td>Lab 5: Web page layout with CSS</td>
<td>Tues, Mar 21, noon</td>
</tr>
<tr>
<td>Tues Mar 21</td>
<td>Lab 6: CSS templates</td>
<td>Tues, Mar 28, noon</td>
</tr>
<tr>
<td>Tues Mar 28</td>
<td>Lab 7: Building a site in WordPress</td>
<td>Tues, Apr 4, noon</td>
</tr>
<tr>
<td>Tues Apr 4</td>
<td>Lab 8: Project peer reviews: Attendance is mandatory.</td>
<td>Tues, Apr 11, noon</td>
</tr>
<tr>
<td>Tues Apr 11</td>
<td>Lab 9: JavaScript utilities: Lightbox and Forms</td>
<td>Tues, Apr 18 noon</td>
</tr>
<tr>
<td>Tues, Apr 18 - Fri, Apr 21</td>
<td>Lab 10: Individual project review sessions</td>
<td>--</td>
</tr>
<tr>
<td>Tues Apr 25</td>
<td>Open lab with Vahid for work on projects</td>
<td>--</td>
</tr>
<tr>
<td>Tues May 2</td>
<td>Open lab with Vahid (final project presentation week)</td>
<td>--</td>
</tr>
</tbody>
</table>

Homework and Lab Assignments

CS 103 includes one homework assignment and one lab assignment every week. These are posted on the Assignments page of the course website with due dates.

Homework assignments are due at 6 pm on Mondays, and lab assignments are due at noon on Wednesdays. Most assignments are submitted online in Blackboard, but occasionally assignments will be done on paper. If you must be
absent from class when a paper assignment is due, send your homework as an email attachment to Professor Worst before it is due to avoid a late penalty.

Lab and homework assignments may be turned in up to 48 hours late, with a 10% late penalty each day. Assignments turned in more than 48 hours after the due date will not be accepted.

**Exams**

CS 103 will include two in-class exams during the semester and one comprehensive final exam during the exam period. All exams will be given in our usual classroom. All are closed book and closed notes and must be completed independently. No calculators or other devices are allowed.

Exam 1: Wednesday, March 1, 2017 6:30 - 7:45 pm
Exam 2: Wednesday, April 5, 2017 6:30 - 7:45 pm
Final Exam: Monday, May 8, 2017 (tentative) 6-8 pm

Please put these exam dates on your calendar now, and wait to make your end-of-semester travel plans until the final exam date is confirmed.

There are no make-up exams. If you cannot take an exam on the assigned date, you must email Professor Worst at least one week in advance to arrange to take the exam in advance.

**Final Project**

The final project is due on Wednesday, May 3, 2017 and includes three components:

- A website built by each student over the course of the semester
- A writeup describing the website and how you built it
- A short presentation of the website to the rest of the class.

You will present your project to your classmates on Monday, May 1 or Wednesday, May 3 during the usual lecture time. You must be present for both days of presentations. Absences from either day will result in deductions to your project grade.

**Course Grade**

The final course grade will be calculated as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>20% (after dropping lowest grade)</td>
</tr>
<tr>
<td>Lab assignments</td>
<td>20% (after dropping lowest grade)</td>
</tr>
<tr>
<td>Exams 1 and 2</td>
<td>20%</td>
</tr>
<tr>
<td>Final project (website + writeup)</td>
<td>20%</td>
</tr>
<tr>
<td>Final exam</td>
<td>15%</td>
</tr>
<tr>
<td>Class participation</td>
<td>5%</td>
</tr>
</tbody>
</table>

To receive the maximum number of class participation points, you must have excellent attendance, answer clicker questions during class, and do at least two of the following:

- Make useful posts to the Discussion Board on the course website (in addition to those required by homework)
- Make a presentation on Show and Tell Day (April 19, 2017)
- Frequently participate in class discussion
- Take other actions that enhance learning by the class.

Class participation points will be deducted for:

- An excessive number of absences
- Not responding to clicker questions
- Frequent lateness
- Not participating in, or being unprepared for, class discussion
- Other actions that detract from learning by the class.
Other Policies

You are responsible for reading course-related email from the instructor, teaching fellow, and graders, which will be sent to your bu.edu email address. Note that emails sent from Blackboard begin with “CS103 A1 Introduction to Internet Technologies and Web Programming (Spring 2017)” in the subject line.

The Discussion Board on the course website is the first place to go with questions about course material. Useful posts to the Discussion Board—both questions and responses—will contribute to the class participation part of your grade. Useful responses are ones that do not provide answers to homework questions directly, but help other students figure out the answers for themselves.

Notify Professor Worst by email (sworst@bu.edu) in advance if you will be absent from class. Include “CS 103” in the subject line of all course-related email messages.

Use laptops and other devices for note-taking only. Please turn off cell phones at the start of class.

Please write or type the following on homework assignments submitted on paper:
  • Your name
  • The date
  • The course number (CS 103)
  • The homework number
  • Page numbers, if the homework is more than one page.

If the homework has multiple pages, please staple them.

You are expected to know and understand the provisions of the Boston University Academic Conduct Code (http://www.bu.edu/academics/policies/academic-conduct-code/). You are encouraged to work together to understand general concepts, but your homework assignments, lab assignments, and exams must represent your own work.

You are responsible for retaining all papers and exams that have been graded and returned.