

# *CMPSCI 120*

## *Fall 2020*

### *Problem Solving with the Internet*

*Professor William T. Verts*

**Class Lectures:**

Monday, Wednesday, Friday, 1:25PM–2:15PM Eastern Time. Zoom links will be emailed via SPIRE the day before. Zoom recordings of the lectures will be posted the same day. Transcripts may take a little longer.

**Office Hours and Email:**

M/W/F 11:15-12:00 & by appointment. Zoom links will be emailed via SPIRE the day before. I am retired and will not be participating in UMass activities on Tu/Th, but will check email.  
verts@cs.umass.edu      Personal, for asking questions.      Put CMPSCI 120 in the subject line.  
literacy@cs.umass.edu      For submitting labs and homework. Put CMPSCI 120 in the subject line.

**Book:**

*Computer Science Companion*, 5<sup>TH</sup> Edition, 2020 Printing, ISBN 9781792446696, ~\$28, by me. We will get all other reference materials from the Web itself. There are many reference books on HTML, CSS, JavaScript, and Python available on-line and at bookstores; I'll provide references when appropriate, but purchase is not mandatory. The *Computer Science Companion* is a required text for COMPSCI 119, 120, and 145.

**Web Sites:**

<http://people.cs.umass.edu/~verts>  
<http://people.cs.umass.edu/~verts/cmppsci120/cmppsci120.html>  
<http://people.cs.umass.edu/~verts/cmppsci120/GenEdStatement.html>

**Social Media:**

Please do not “friend” me on Facebook, Linked-In, or other social networks. I reserve Facebook for relatives, hiking buddies, and friends from high school, and I largely ignore Linked-In. I do not often post messages on Twitter.

**Course Scoring (percentages may change according to number and type of assignment):**

Midterm #1	15%	late September. Open notes.
Midterm #2	15%	late October or early November. Open notes.
Final Exam	20%	Final’s Week. Open notes.
Projects	40%	Throughout semester: Late penalties will apply as appropriate.
Homeworks/Quizzes	10%	Occasional.

**Letter grades will be assigned according to final computed course score:**

A ≥ 90%, A- ≥ 88%, B+ ≥ 86%, B ≥ 80%, B- ≥ 78%, C+ ≥ 76%, C ≥ 64%, C- ≥ 62%, D+ ≥ 60%, D ≥ 50%, F < 50%. Missing any exam incurs an automatic F for the course. Fractional final course scores are [ceilinged] up to an integer.

**Computer:**

You are expected to do all work on your own personal computer. For the lectures I will switch between PCs running Windows 10 and Macs running OS/X, arbitrarily, or as my demonstrations require. While this course is largely platform agnostic, there will be some (free) programs I will have you use that are designed to work exclusively on a Windows PC or exclusively on a Mac. I may also provide some free software that will run on either platform.

### Course Expectations:

I expect that most students coming in to COMPSCI 120 will have browsed the Web, but few may have created their own Web pages. Some have, and that's cool, but I am assuming that students have little to no relevant experience. At the end of the course, however, I expect students to be given any reasonable problem description and then create and install on a server an appropriate Web page, with CSS, client-side JavaScript, and server-side Python. The resulting Web page does not have to be the most efficient or well-written, but it must work without internal errors. Students must be able to modify an existing Web page to do new tasks and must be able to find and correct errors in that page.

### Notes:

1. **DO YOUR OWN WORK, INCLUDING HOMEWORK AND LAB WORK.** You may discuss homework and lab assignments with other students, but you may not share files or code. Upon discovery of duplication, I will contact you for a conference, as required in the guidelines set out by the University of Massachusetts Academic Honesty Policy, and we will resolve the issue according to those guidelines. See:

[http://www.umass.edu/dean\\_students/academic\\_policy/](http://www.umass.edu/dean_students/academic_policy/)  
<https://www.umass.edu/honesty/>  
[https://people.cs.umass.edu/~verts/class\\_documents/AcademicHonestyPolicy.html](https://people.cs.umass.edu/~verts/class_documents/AcademicHonestyPolicy.html)

2. Students who are registered through Disability Services should arrange for accommodations as soon as possible. See:

<http://www.umass.edu/disability/>  
[https://people.cs.umass.edu/~verts/class\\_documents/DisabilityStatement.html](https://people.cs.umass.edu/~verts/class_documents/DisabilityStatement.html)

3. **Do not** ask for extra work after the end of the semester to boost an undesirable grade. It is unfair to other students in the class and I never grant such requests.
4. Please contact me directly if you have any concerns about the running of the course, the TAs, grading, etc.

## Course Outline

This course can be divided into several general sections, covered in roughly this order. The early topics may be covered in a lecture or two; the later ones may take several weeks.

1. History of the Internet and the Web
2. Search Engines and searching strategies. Net neutrality.
3. Bias and the Internet (aka: Defense against the Dark Arts).
4. Email protocols.
5. Basic Networking Hardware.
6. Client-Server model, Internet Protocols, Domain Name Servers, URLs, and Packet Sniffers.
7. Introduction to HTML.
8. UNIX, Telnet, and FTP.
9. Intermediate HTML and CSS. Deprecated tags.
10. Bitmapped graphics file formats and favicons.
11. SVG graphics files.
12. Advanced HTML.
13. Introduction to Client-Side Programming with JavaScript.
14. Introduction to Server-Side Programming with Python.
15. Encryption
16. Viruses and Malware.