COMP .	161
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<h1></h1>	COMP 161	Web Design	
	M- W	Lecture/Lab (Mars 1141) - 2:00-3:20	

Who: Michael Gousie Where: Discovery Center 1325 When: Tue 1:30-3:00; Wed 3:30-4:30; Fri 11:30-12:30 and by appointment E-mail: mgousie(at)wheatoncollege(dot)edu http://cs.wheatoncollege.edu/mgousie/comp161.html Web:

Content:

You will learn how to create professional and content-rich web sites. To do this, you will learn how to use an integrated development environment (IDE), several software packages, and various software tools. We will work on your web skills in stages, starting from scratch using the markup language HTML5 and progressing to sophisticated CSS. At the end of the semester, we will look at some very basic programming using the JavaScript language. Much of the classroom time will be devoted to hands-on work. No previous programming or web design work is required or assumed.

The general topics covered will be:

- Background information on files, folders, and servers.
- Basic web page design.
- Creating web pages and sites using an integrated development environment (IDE) and a browser.
- Learning how to write a web page using the HTML5 markup language.
- Learning how to style a web page using CSS.
- Building sophisticated web sites that include simple animations and other advanced CSS functionality.
- Creating pages that work with different device sizes (responsive design).
- Learning some basic JavaScript programming to allow for more user interaction.
- Putting it all together in a full-featured web sites.

WARNING! This is not a course that simply teaches how to "point and click" your way through application software! We will **not** be using web page builder software; rather, you will create pages from scratch. You will be writing your own code, using markup languages and a powerful programming language. A significant time commitment is required, much more so than many 100-level courses. Having said that, you will get much satisfaction from what you can accomplish!

Required Texts:

- Lynch, P. and Horton, S. Web Style Guide, 3^{rd} edition. Yale Press, 2008. Available online on the course web page. Note that there is a newer 4^{th} edition, but that one concentrates more on enterprise process (that is, how to design a site in a large corporate structure) rather than focusing on page design. Thus, we will use the 3^{rd} edition, even though some of the examples may be a bit dated; the design principles are still valid.
- Duckett, J. *HTML & CSS: Design and Build Websites.* Wiley, 2011. There is also an accompanying web site.

Recommended Texts:

- Beaird, J., George, J., and Walker, A. *The Principles of Beautiful Web Design*, 4th Edition. SitePoint, 2020.
- Dean, J. Web Programming with HTML5, CSS, and JavaScript. Jones & Bartlett Learning, 2019.
- There are many other books and, of course, even more resources on the web. I recommend the use of w3schools.com as an online resource.

Required Hardware:

- You must work on your projects on a good-quality laptop, running any operating system (Windows, Mac, or even Linux). Note that a tablet or Chromebook is not sufficient.
- You must have a good Internet connection, as you will be downloading course content and uploading web pages to a Wheaton server. If you are working off campus, you will also need to use the VPN.

Software:

The required software is freely available online. The software we will use is as follows, although other options are available:

- Komodo IDE, Sublime Text, or similar a free Integrated Development Environment (IDE) for creating web pages.
- FileZilla free File Transfer Protocol (FTP) client software.
- Firefox browser (preferred).
- Forticlient Virtual Private Network (VPN) software available from Wheaton.
- GIMP (GNU Image Manipulation Program) a robust paint program that works on any platform. Optional.

Requirements:

There will be three exams during the course of the semester and a final exam, together worth 40% of the grade; see chart below for more information. There will be two homework assignments worth 8% of the grade. Four web page/site projects, each highlighting a specific problem, such as basic HTML, good design using CSS, animation, etc., account for 52% of the grade. One or more of the later projects *may* be built by teams of two. These projects **must** run correctly on the department server, not just on your own laptop. Having your pages correctly viewable on a server is a major goal of the course.

Exam Schedule:

Exam	Weight	Topic	Date (Subject to change)
Exam 1	9%	Number systems, basic design	September 23
Exam 2	9%	HTML5, more design	October 23
Exam 3	12%	HTML5 & CSS	November 13
Final Exam	10%	Responsive design, JavaScript	December 10

Projects/Homework:

Item	Weight	Topic	Approx. Due Date
HW 1	4%	Files, number systems	Week 3
HW 2	4%	HTML warm-up	Week 4
Proj 1	8%	Basic web pages	Week 7
Proj 2	16%	Complete web site	Week 10
Proj 3	16%	Site with responsive design and animation	Week 13
Proj 4	12%	E-commerce web site	Week 15

Grading:

Grades will be assigned according to the following scale:

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A = 93-100, A = 90-92, B = 87-89, B = 83-86, B = 80-82, C = 77-79, etc.
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Course Policies:

- You are responsible for all material covered in class, including the reading (shown on course schedule).
- If you must miss a exam for any reason, you must inform me BEFORE the test. Except in the case of emergency, illness, or you fell into Wheaton's original indoor pool¹, makeup exams will not be given.
- Written homework due dates are **firm**. Homework must be handed in at the start of class on the due date. There are **no** late days for homework.
- All project/web page due dates are **firm**. The final code for the projects must be posted and/or turned in electronically by 11:59:59 PM on the due date. Any project turned in on the following day will receive a 15% penalty. Anything turned in later than one day will receive a 0. Any required hard copy and/or written portions must be submitted at the beginning of class on the next day or as instructed on the specification sheet.

¹It's still there; do you know where it is?

- A computer crash is not an excuse for late work. It is important that you **back up all of your work!** Use a flash drive to create backups.
- Web pages will be evaluated using the Firefox web browser. Be sure to test your pages with Firefox before completing your project.
- You are expected to adhere to the Wheaton Honor Code.

(See https://wheatoncollege.edu/about-wheaton-college/honor-code/)

- Although *discussion* of projects or homework is encouraged, the final, turned-in version should be the result of your own work.
- Collaboration on exams is prohibited.
- You will be required to write and sign the pledge on all work turned in: I have abided by the Wheaton Honor Code in this work. Instructions for electronic submissions will be given on the project specification sheets.
- Any violation of the above guidelines will result in a 0 for that assignment and/or a failing grade for the course.
- During class time, computers in the classroom are to be used **only for the current exer-cise/problem**, not for surfing the interwebs or checking by how many runs the Red Sox lost their last game.
- The use of cell phones, iPods, iPads, iPlops, iFlops, and other personal electronic devices is prohibited during class, labs, and exams. I encourage you to turn off/mute your device and put it away during class and whenever you are programming. The distraction of these devices is just harming your own learning experience.²
- Please do not disrupt class by leaving/returning, unless there is an emergency. A text message does not constitute an emergency.
- Accommodations for disabilities:

Wheaton College is committed to providing equitable access and supportive services for all students to fully access and thrive in the academic, residential and social aspects of student life. Affirmatively, Wheaton provides appropriate accommodations for eligible students with documented disabilities to afford equal access to educational programs and services. Individuals with disabilities and other access concerns requiring accommodations or information on accessibility should reach out to Accessibility Services at the Filene Center:

 \sim accessibility@wheatoncollege.edu or (508) 286-8215 ~

Course Schedule (subject to change):

²It is actually possible for you to take a break from your phone for the duration of the class.

Week #	Date	Topic(s)	Reading (see notes below)
Week 1		Introduction	L&H Chs. 1 & 3; notes
	Aug 28	Introduction, basic file systems	,
Week 2		Number systems	Duckett Ch. 11
	Sep 2	No class - Labor Day	
	Sep 4	Terminology, hex numbers, and color	
Week 3		Intro to web pages	L&H Chs. 4 & 5;
		I G	Duckett Chs. 1, 2 & 18
	Sep 9	Basic design	,
	Sep 11	IDE and basic HTML5	
Week 4	-	Basic web pages	L&H Chs. 6 & 7;
			Duckett Chs. 3-5
	Sep 16	Uploading data to server, validation	
	Sep 18	Links and images	
Week 5		More HTML5	Duckett Chs. 6 & 8
	Sep 23	Exam 1	
	Sep 25	Tables and additional markup	
Week 6	-	Advanced images and design	L&H Chs. 8 & 11; Duckett Ch. 9
	Sep 30	Image formats, video	,
	Oct 2	Design principles and practice	
Week 7		CSS	L&H Ch. 9; Duckett Chs. 10-12
	Oct 7	Intro to CSS	
	Oct 9	Text and fonts	
Week 8		Alignment	L&H Ch. 9; Duckett Ch. 13
	Oct 14	No class - October Break	
	Oct 16	Text and alignment	
Week 9		Using CSS	Duckett Ch. 13
	Oct 21	Boxes, more alignment	
	Oct 23	Exam 2	
Week 10		Advanced CSS	Duckett Chs. 7, 14-16
	Oct 28	Layout, images	
	Oct 30	Lists, tables, and forms	
Week 11		Animation	Course web page/notes
	Nov 4	CSS animation	
	Nov 6	Other techniques	
Week 12		Responsive design	Course web page/notes
	Nov 11	Viewports	
	Nov 13	Exam 3	
Week 13		More responsive design	Course web page/notes
	Nov 18	Media queries and srcset	
	Nov 20	Forms and JavaScript	
Week 14		Web programming	Course web page/notes
	Nov 25	Basic JavaScript	
	Nov 27	No class - Thanksgiving Break	
Week 15		JavaScript	Course web page/notes
	Dec 2	Basic math and the DOM	
	Dec 4	Clean up/review	
Week 16		Finals Week	
		Final exam Tuesday, $12/10$ 9:00 AM	Whew!

Notes:

- \bullet L&H refers to the $\mathbf{3^{rd}}$ edition of the Lynch and Horton textbook.
- The reading includes items on the web, as mentioned in class.
- There will be exam questions based on the reading that we will **not** formally cover in class.