

Fluency in Information Technology

Bulletin Description

The nature of computers, their capabilities, and limitations. How computers work, popular applications, problem-solving skills, algorithms and programming. Lectures, weekly readings, and laboratory assignments.

General Course Info

Term: TERM SPRING 2015
Department: COMP
Course Number: 101
Time: Section 1, TR 2:00-3:15
Section 2, TR 12:30-1:45
Location: FB 007
Website: <http://www.cs.unc.edu/Courses/comp101-s15>

Instructor Info

Name: Diane Pozefsky
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Office Hours: Open Door Policy

Teaching Assistants

Section 2 (12:30)
Brian Markham (markhbj@cs.unc.edu)
Marquis Hackett (hackettm@cs.unc.edu)

Section 1 (2:00)
Andrew Messier (amessier@cs.unc.edu)
Rahul Ramkumar (rarmkuma@cs.unc.edu)

Office Hours

Monday	3:00-5:00	Andrew Messier, lower Sitterson lobby
Tuesday	3:30-5:30	Marquis Hackett, lower Sitterson lobby
Wednesday	1:30-3:30	Rahul Ramkumar, lower Sitterson lobby
Friday	10:00-12:00	Diane Pozefsky, FB 146
	12:00-2:00	Brian Markham, lower Sitterson lobby

Textbooks and Resources

There are no required or recommended textbooks. Sakai will be used primarily for the returning of comments and grades. All assignments and projects will be submitted through the student's university website on isis.unc.edu. Required software includes Komodo Editor, Filezilla, Chrome and Microsoft Excel. The first three of these are free software downloads from the web. The last of these is available free through ITS (included as part of student fees). All recommended or required resources are available or referenced on the class website.

Course Description

The objective of this course is to introduce students to computers and technology. Rather than rote learning of how to do things, the student will learn to understand how things work and will therefore be able to continue growing skills beyond the course. As a Quantitative Reasoning (QR) course, a key objective of this course is to teach the student how to analyze problems and attack them in a logical sequence of steps. This is a skill that will be worked on throughout the semester.

The primary technologies that will be taught are web page development and spreadsheets, with a strong emphasis on the web development.

Target Audience

This course is intended for non-majors with a desire to be more comfortable with computer technology and to learn specific skills that they may be able to apply in their courses and career plans. It is a basic introduction to computational thinking and teaches the fundamentals through specific skills. Students pursuing studies in data-intensive fields or in fields that require the use of technology will find the course beneficial as will students with a need to communicate through the internet.

Prerequisites and Placement Credit

No prerequisites.

No credit by placement or exam.

Goals and Key Learning Objectives

By the end of the semester, the student will

- Understand in general terms what computers are and what they can and cannot do, including the ability to
 - Identify and describe hardware and software components of web-based applications
 - Explain how different kinds of information (from numbers to pictures) can be represented in a computer
- Understand what an algorithm is, how to develop them and how to use them to solve problems
- Be able to build a web site using only basic concepts while able to learn advanced functions on their own

- Be adept using the basic features of spreadsheets while able to experiment on their own with advanced features
- Understand how to retrieve data from the web and analyze it in ways to produce new, interesting results

Disclaimer

The professor reserves to right to make changes to the syllabus, including assignment and project due dates. These changes will be announced as early as possible and will be reflected on the course website. If there are discrepancies between this syllabus and the website, the website is considered the definitive information.

Course Requirements

Lectures are accompanied by a significant number of resources, including presentation slides, code examples, reference materials and videos. These materials will be posted before the beginning of class. In addition, there is a single directory of the snippets and samples that students will find a valuable resource.

Following each lecture (or sometimes intermixed within the lecture) are lab exercises that must be completed within class. Cooperation among students to understand the content is encouraged, but each student will turn in each lab. In order to encourage students to work with different students who may become their partners, seats will be assigned for the first several weeks of classes.

There will be labs in almost every class (exceptions include the first day and days with tests; there may be other days when we choose not to give a lab). The labs will be graded on a 0-2 basis before you leave class. Basically, the grading is

- 0: missed class
- 1: tried
- 2: got the general idea

Grading will be based on the number of labs that each student should have taken. In the case of an excused absence, the number of expected labs for that student will be reduced by 1. That means that the value of all of the other labs increases.

There will also be two full-period tests during the semester. They are currently scheduled for February 12 and April 2. Each of them will be cumulative in nature and will be practical in nature, asking you to apply principles.

Assignments and projects may be done in teams of up to 3 people. Working individually or in pairs is permitted but there will be no reduction in scope if students choose to work in smaller groups. There will be an assignment or project most weeks of the semester.

Assignments will be well specified, with only formatting differences allowed. There will be no research or invention required. Assignments will be due at midnight of Saturday and will be graded before class on Tuesday. Assignments will be graded on a 10 point scale.

Unlike assignments, the topics for projects are at your team's choosing; you will be given a general class of topics that you need to address and the elements required in the web page. Rules for original work are similar to any paper: direct borrowing must be attributed, as should general concepts. Images that are used must be acceptable for re-use; when we study images, we will identify some generally useful resources. Projects will be due at midnight of Saturday and will be graded before class on Tuesday. Projects will be graded on a 20 point scale.

For each of the projects, each student will be asked to critique 3 websites built by their classmates. The feedback will be given to the site developer without attribution and will be used in assigning the grade. Students will be asked to post the critiques twice: once where the author of the site can easily read them and once on Sakai for grading. The critique assignments will be made early Sunday morning and the reviews are due by midnight on Monday. The reviews themselves will be graded on a 0-5 scale based on whether the reviews were completed on a timely basis and whether they looked at all of the key issues. There will be a single grade for all 3 reviews.

The final project will be similar to the earlier projects and will be due at the final exam. For the final exam, each team will present their project to the class and other students will critique it during the exam period. The grade for the final project will include the site produced, the presentation, and the critiques. The first two of these are a single grade for the group, but the last one is an individual grade.

Key Dates

Assignments and projects are due at midnight on Saturday. (Exception will be assignment due just before spring break, which will be due when break begins on Friday.) There will not be assignments due on exam weeks: February 12 and April 2.

The final exams follow the regular university schedule: section 2 (12:30) exam is at noon on Friday, May 1 and section 1 (2:00) is at noon on Monday, May 4. If anyone has a problem with the final date, telling the instructor early will be appreciated and will help in arranging an appropriate alternative.

Grading Criteria

All assignments and projects will be turned in by posting on the UNC web site under your onyen with the name that is given in the assignment. Labs will be posted the same way or through CodePen or jsFiddle (free websites that we will be using; you will be asked to sign up for free accounts on these sites). Peer critiques of websites will be posted to Sakai and that time stamp will determine when they were submitted. Each student will maintain a web page that links to all their work; we will build this as soon as we have learned all of the needed tools. All team members will receive the same grade. For assignments associated with a spreadsheet, the spreadsheet will be linked from the web page.

Assignments and projects are generally due at midnight on Saturday. They must be posted properly. If it is not properly posted, it is not there and is given a 0. Grades and comments will be returned through Sakai. We will be learning to use validation tools for web pages and all assignments and labs must validate WITHOUT errors. There will be a significant penalty for validation errors: 25% of the grade. Validation errors will be able to be corrected for the price of 2 late days (see late day policy). Revalidation is the only correction that will be allowed, but it must be done within 48 hours of the time the assignment or project is returned. Challenges to deductions must also be made within the same 48 hours. Both of these requests need to have the appropriate [google form](#) submitted.

Category	Percentage
Labs	25
Tests	15
Assignments	20
Projects	25
Reviews	5
Final Exam	10

In order to help students track their grades, a spreadsheet will be posted on the website that will allow them to track their progress. (This spreadsheet is likely to be updated throughout the semester as the number of assignments, projects, and labs change.)

While I always abide by the “decade” division for letter grades (90 or greater is at least an A-, 80 or greater is at least a B-, etc.), I will often adjust the + and – divisions based on class performance. Therefore this spreadsheet does not do that final letter translation. I will update it for that function at the end of the semester.

Course Policies

Attendance: Labs will only be graded in class and therefore you will not be able to get lab credits if you are not in class.

Late Policy: We will count the number of days that assignments and projects are late. They are not considered turned in unless the appropriate google form has been submitted and the time stamp on that form will identify when it is to be graded. A day is 24 hours. You will be given 3 free late days. Beyond the 3, your final grade will be reduced by the number of late days. Example: if you accumulate 8 late days, you will be given a pass on the first 3, but your final grade will be reduced by 5 points. In case of illness, accident, and family emergencies *that are discussed with me in a timely fashion*, late days need not be used. All such requests must be submitted through the appropriate [google form](#).

The course final is given in compliance with UNC final exam regulations and according to the UNC Final Exam calendar.

Honor Code

Collaboration and peer-learning are encouraged in the class. All assignments, labs, projects and exams are open book, open notes, and open network. In the case of assignments and projects, the work must be that of the student. Directly taking text from other sources is not acceptable. Short excerpts from other sources may be quoted and properly cited. Similarly, styling pieces and techniques may be borrowed from other sources, but must be credited appropriately. If assignments or projects are the work of multiple students, all names must appear on the website (or multiple copies if they are posted more than once). The same product posted with different names is considered to be illegally copied. If you have questions about whether you are borrowing too much, speak to the professor.

Course Schedule

The following is a draft of the class lecture schedule.

	Jan 8 Introduction to course
13 HTML	15 CSS
20 anatomy of a web page	22 box model
27 colors	29 formatting in context
Feb 3 images	5 links and anchor points
10 multipage sites	12 EXAM
17 floating elements	19 tables
24 positional formatting	26 tables from Excel
Mar 3 multimedia & widgets	5 intro to JavaScript
10 SPRING BREAK	12 SPRING BREAK
17 data types	19 Booleans
24 conditionals	26 strings
31 events and functions	Apr 2 EXAM
7 more complex tables from Excel	9 graphs from Excel
14 objects	16 jQuery introduction
21 jQuery packages	23 HTML Canvas

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