

CS 1109

Fundamental Programming Concepts

Summer 2013

Staff and Office Hours

Instructor

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Lectures

Session : 001

Time: 10:00 AM - 11:05 AM
Lecture: 211 [Upton Hall](#) on MW
Lab: [Upton B7](#) on TR

Session : 002

Time: 11:30 AM - 12:35 PM
Lecture: 215 [Upton Hall](#) on MW
Lab: [Upton B7](#) on TR

Course Information

This course provides an introduction to programming and problem solving using a high-level programming language. It is designed to increase your knowledge level to comfortably continue to courses CS111x. Our focus will be on generic programming concepts: variables, expressions, control structures, loops, arrays, functions, pseudocode and algorithms. You will learn how to analyze problems and convert your ideas into solutions interpretable by computers. We will use [MATLAB](#); because it provides a productive environment, and it is widely used by all engineering communities.

Software

MATLAB is already installed in many [public computing labs](#) on the campus. If you want to buy a personal copy, you can get it from [MathWorks](#) website or from the [Cornell Store](#) in DVD. There is also an open source alternative, [Octave](#), which is mostly compatible with MATLAB. Octave is sufficient for the level of our course coverage.

Course Websites

Shortcuts: www.cs1109.info, hw.cs1109.info

The website for the course is <http://www.cs.cornell.edu/courses/cs1109/2013su/>. You can follow announcements and download course materials from this address. You will upload homework assignments to the Course Management System (CMS): <http://cms.csuglab.cornell.edu/>

Lectures and Labs

Lectures will be held in classrooms at Upson Hall. Slides will be available on the course website after the lecture. Laboratory sessions will be held in a reserved computer lab. Unless otherwise announced, we will be alternating between lectures and labs: Lectures on Mondays and Wednesdays, and labs on Tuesdays and Thursdays. We will temporarily relocate to **Phillips 318** and **Mann 112** during the second and fourth weeks respectively.

When	Where
25 June, 27 June	Upson B7
02 July, 04 July	Phillips 318
09 July, 11 July	Upson B7
16 July, 18 July	Mann 112
23 July, 25 July	Upson B7
30 July, 01 Aug	Upson B7

Office Hours

Both the instructor and the teaching assistant will hold office hours every week. In the first week of the class we will make a poll and try to select appropriate time slots and place. Office hours provide you a good opportunity for detailed questions, and to ask for clarifications on course material or assignments.

Textbook

We will not follow a textbook; however, we may refer you to readings from **Insight Through Computing: A MATLAB Introduction to Computational Science and Engineering** by Charles F. Van Loan and K -Y Daisy Fan. It is available online through Cornell Library: <http://cornell.worldcat.org/oclc/694085666>.

Homeworks

Homeworks will have one or two multi-part, themed questions. You will be asked to write short scripts to accomplish subtasks of the solution. The submissions will be online to **CMS**. Homeworks will be graded both on correctness and programming style (clarity, comments, indentation etc). Even in the case of auto-grading we will still read your code.

Quizzes

Every week there will be at least two quizzes: one of them will be in class and the other will be online. Online quiz will consist of multiple choice questions or short answers. There won't be any time limits. The schedule for the online-quizzes is available on the course Calendar. In-class quizzes will be anytime during the lecture or lab sessions when we think it is necessary to assess your understanding.

Final Exam or Project

Depending on the majority vote, we will either have a prelim and a final project (possibly in pairs), or just a final exam. We will refer the total points you get from it as the *Final* in the Grading Policy.

Grading

This course is S/U (Satisfactory/Unsatisfactory) only. You are expected to demonstrate competency in most of the assignments. After normalizing to 100 and averaging homeworks and quizzes, your total grade will be calculated as $Total = (Final * 0.3) + (Homeworks * 0.5) + (Quizzes * 0.2)$. In order to get a passing grade your total points should be ≥ 75 .

Academic Integrity

You can discuss homework problems with your friends, but make sure you acknowledge any help received at the beginning of your scripts. Unless we assign a group project, all submitted work has to be your own effort. **IMPORTANT!** Make sure you read [Cornell University Code of Academic Integrity](#).

Students with Disabilities

It is Cornell policy to provide reasonable accommodations to students who have a documented disability (e.g., physical, learning, psychiatric, vision, hearing, or systemic) that may effect their ability to participate in course activities or to meet course requirements. Students with disabilities are encouraged to contact Student Disability Services and their instructors for a confidential discussion of their individual need for academic accommodations. Student Disability Services is located in 420 CCC. Staff can be reached by calling 607.254.4545.

Calendar

Date	Type	Topic	Assigned	Due
24 Jun	Lec	Bits, Bytes, Codes, Variables	Hw0	
25 Jun	Lab	Welcome to MATLAB		Hw0
26 Jun	Lec	Operators, Expressions	Hw1	
27 Jun	Lab	Scripting, Input/Output		
01 Jul	Lec	Branches	Qz1	Hw1
02 Jul	Lab	Loops		
03 Jul	Lec	Arrays, More Loops	Hw2	Qz1
04 Jul	Lab	No Class		
08 Jul	Lec	Functions	Qz2	Hw2
09 Jul	Lab	Practice: Functions		
10 Jul	Lec	Pseudocode, Algorithms	Hw3	Qz2
11 Jul	Lab	Practice: Algorithms		
15 Jul	Lec	Files	Qz3	Hw3
16 Jul	Lab	Practice: Files		
17 Jul	Lec	Plotting	Hw4	Qz3
18 Jul	Lab	Practice: Plotting		
22 Jul	Lec	Audio Processing	Qz4	Hw4
23 Jul	Lab	Practice: Audio Processing		
24 Jul	Lec	Image Processing	Hw5	Qz4
25 Jul	Lab	Practice: Image Processing		
29 Jul	Lec	Review	Qz5	Hw5
30 Jul	Lab	Practice: Review		
31 Jul	Lec	Review		Qz 5
01 Aug	End	Final Exam		