CS1171 - Computing for Engineers

Spring, 2014 Class Syllabus

Course Objectives

 The objective of this course is to provide a self-study class to demonstrate proficiency in MATLAB, the basic programming language used by the College of Engineering. It is not a substitute for CS1301 or CS1371 as a prerequisite for other Georgia Tech classes. Students who can exempt any classes except CS1371 by means of transfer credits may use this class to demonstrate MATLAB skills.

The only class requirement is a final examination to be offered at a time and place to be announced. There will be one hour a week of recitation to assist students with the examination materials.

Evaluation

Evaluation will be entirely by a final examination. Two exams will be offered - an exemption exam on the second day of the semester and a final exam on the Monday of Finals Week. Passing the exemption exam will suffice to pass the class.

Course Content

Concepts

The students will be expected to be familiar with the following concepts, either by writing code to solve problems, or by diagramming the behavior of the more complex algorithms.

General Principles:

- abstraction
- testing
- debugging
- problem solving
- sorting data
- manipulating graphs

Concepts evaluated by coding:

- data types
- the use of variables for storing data

- basic mathematical and logical expressions
- arrays
- operations on arrays
- strings and character arrays
- structures
- file input and output
- conditional statements
- selection
- repetition
- functions and procedures
- variable scope
- plotting 2-D and 3-D data
- recursion
- manipulating images
- processing sound

Language

Matlab® is an excellent first language for engineers. It is an interpreted language that provides students immediate feedback from their actions, and postpones many of the gory details of correctness until a program is run. It is an ideal environment for ordinary engineering computation. This course is conducted from the Matlab® environment. 'Matlab' is a registered trademark of The MathWorks, Inc. Students who wish to work on their Matlab® assignments on their own computers are required to purchase a Matlab® license. For students not wishing to purchase the license, Georgia Tech provides access to computers equipped with Matlab® licenses through a licensing arrangement with The MathWorks, Inc.

Course Management

In order to provide the students with access to more resources, we are evaluating a new management policy. All CS1171 students this semester will be merged with the CS1371 T-Square site. They will have access to all homework assignments and will be able to take the tests. They will receive grades for homework and tests to measure their progress, but only the final exam will count towards their score. They will also have an optional recitation period every Thursday at 11am.

Instructor

David Smith. Office hours on his web page.

Open Door Policy

The instructor maintains an open door policy. You are free to visit during the assigned class time, posted office hours or, if you prefer a different time, by appointment. It is very important

to make contact as soon as you feel that you might need to. Problems, unlike fine wines, don't improve with age.

Grading Policies

There is no curve in this course. The grading breakdown is as follows:

Final   100%

The Pass / Fail score required is 70%.

Email Policy for this Course

You are encouraged to conduct all official email correspondence for this course using your official GT email account. This is to protect your privacy. Email from outside sources such as gmail, hotmail, yahoo, and other personal accounts should also be avoided - many Spam killers automatically reject mail from these accounts. For a quickest response, put CS1171 in the subject of your e-mail.

What to do in case of problems

If you need help, you should contact the instructor.

Last Modified November 13th, 2013: by [David Smith](#)