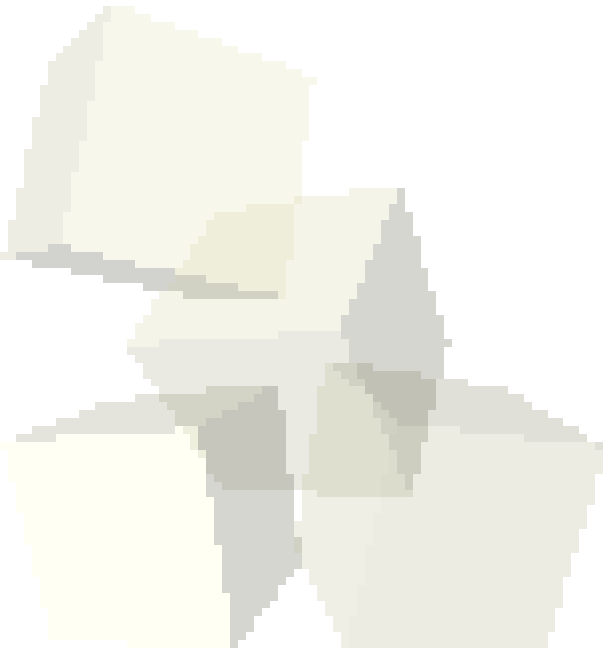




# CSCI 2323-Scientific Computing

1-13-2010





# Opening Discussion

- I always begin class with some discussion. Typically, that discussion will be about the topic of the previous day, readings for that day, or assignments/projects.
- Today none of that applies so I'll ask some different questions.
- Why are you taking this class?
- What do you know about scientific computing?
- What do you want to learn in this class?



# Course Webpage and Syllabus

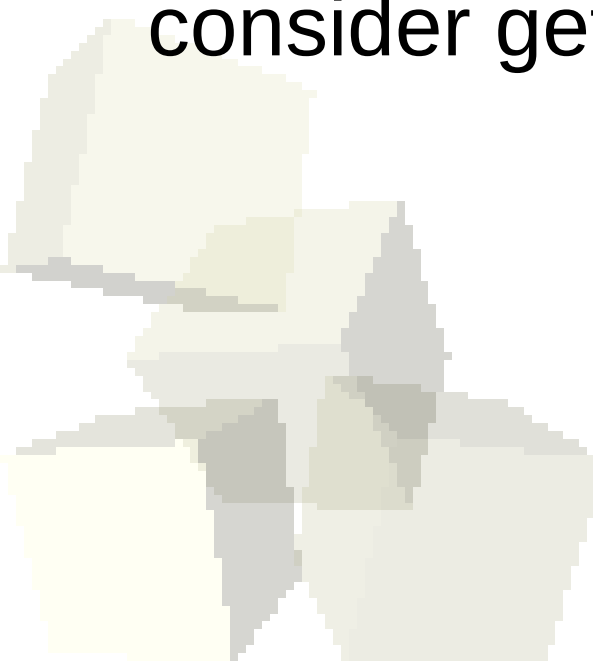
- The webpage for this course can be found at:
  - ◆ <http://www.cs.trinity.edu/~mlewis/CSC12323-S10/>
- This site also has the schedule of what we will be covering. I put a link to it in TLEARN, but I don't expect us to use TLEARN much if at all.
- Go ahead and bring up a browser window and go to the site so that you can follow along.



- We will meet here every MWF this semester unless otherwise noted on the schedule.
- The best way to get in contact with me is via e-mail. I generally respond to it fairly quickly.
- I have a number of office hours scattered through the week though I'm in my office at a lot of other times. If you come by to see me and I'm not in my office, look around a bit. It is quite likely that I'm helping someone in one of the labs: 228, 340, 329, or 200.



- We have two texts for this course.
- The first text is “Mastering Matlab 7” by Hanselman and Littlefield. We will be using this the first half of the semester.
- For the second half we switch to “Beginning Perl for Bioinformatics” by Tisdall and LeJeune.
- There are also many other books you could consider getting on this topic.





# Course Description

- This course was created for the Scientific Computation minor.
- This course assumes you have some programming knowledge, and works to extend that knowledge so that you know how to use computers for scientific purposes.
- The course is broken into two sections. First we will talk about numerical techniques and numerical computing with Matlab as our primary tool. Then we will look at data-mining of large datasets as we switch over to Perl.



- Assignments (10 for 20%) - small tasks that allow you to play around with what we are doing.
- Projects (2 for 40%) - actual scientific work that will be done using skills that are talked about in class.
- Tests (2 for 30%) - what you would expect. Written exams will be used to test if you have mastered certain skills. Questions can come from assignments or quizzes as well as lecture and reading.
- Quizzes (6 drop 1 for 10%) - these give you regular feedback on understanding and help you prepare for the tests.



- You will notice that the course web page actually starts you at the schedule instead of the syllabus as that is what you will use most. This tells you what we will do each day of the semester and gives you links to the lecture notes. It also shows test days, readings, and assignment due dates.
- Readings should be done before you arrive in class on that day. We will use that knowledge in class.
- Assignments are due at midnight on the date listed. You will use an electronic submission program to submit your assignments and also to check your grades.





# Role of Computing in Science

- Computers effect everything in your life these days, whether you realize it or not. Science is no different. Active science research in nearly every field depends on the use of computers in different ways.
- Different fields have come to rely on computers at different times and in different ways.
- For this course we will focus primarily on the fields of Biology, Chemistry, Engineering, Physics, and Psychology.
- How do you think each of these different fields use computers to conduct their research?



- Each day we will finish with you writing a short answer to some questions. Make sure the piece of paper has your name on it when you hand it in. This is how I will keep attendance.
- Tell me why you are taking this course. What do you hope to learn from it or get out of it? What programming languages do you know and what experience have you had with them?

