Welcome to SI502 Networked Computing: Storage, Communication, and Processing

Dr. Charles Severance
Daniel Zhou
Paul B. Hartzog
Ben Congleton

What is the Course About?

- Giving you Technology Foundations to use in your SI career
- Kind of like a CS Bachelor's degree plus several years of experience developing in the web
- A survey course - broad not deep

Overall Course Goal

- Expose you to a wide range of material in a hurry
- Prepare to learn much more on your own
- You won't be an expert in this stuff ...

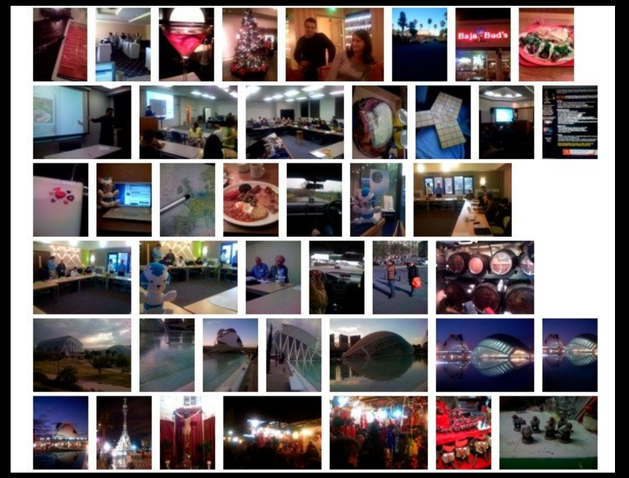
- .... But you will be very dangerous to yourself and others

Dr. Chuck...

Dr. Charles Severance
Clinical Assistant Professor
Office Hours: by appointment

www.dr-chuck.com
www.dr-chuck.com/csev-blog
twitter.com/drchuck/
www.dr-chuck.com/media.php
www.dr-chuck.com/images/

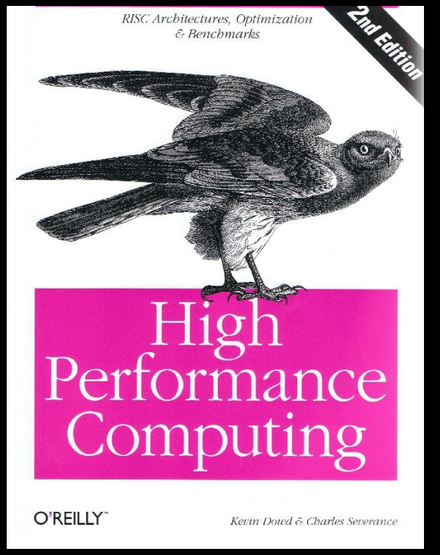
Source: http: //twitter.com/drchuck/



Source: http://www.flickr.com/photos/dr-chuck/

Source: http://www.youtube.com/user/csev

- My previous job: Sakai / CTools Architect
- My research topics: Software For Teaching and Learning, Web Lecture technologies, and High Performance Computing.
- I also work in developing standards for learning software interoperability
- Hobbies: Hockey, Off-Road Motorcycle Riding



Sakai

IMS

Course Overview

Registration Issues

- Space in SI502 is always tight - because we want to keep the sections small so we can cover a lot of material
- Sign up with Dr. Chuck - sheet of paper
- We will look at room size and see if we can squeeze a few more in

Schedule Notes

- You can attend either lecture
- Discussion will cover material from the previous week's lecture
- Hacker Jam is an informal group office hour - you can just come and hang out - we have GSI meetings - and talk about anything at all

How a Week Works

- Monday (at latest) Readings on new topic announced
- Wednesday/Thursday - Lecture on a new topic
- Friday - Assignment published for the new topic
- Weekend - Do the assignment on your own if possible
- Following week: Work/Complete/Discuss Assignment in Discussion
- Assignments due: Thursdays at 11PM

Course Outline

- Python Programming and Computer Architecture
- Networking and Internet
- Advanced Topics: Database, Security...

WEEK	DATE	TOPIC	REQUIRED READING
1	January 7	Programming And Computers	Zelle 1
2	January 12	Simple Programs	Zelle 2 & 4, AE 3
3	January 19	Decisions and Loops	Zelle 6, 7 & 8, AE 3
4	January 26	Collections and Types	Zelle 11 & 3, AE 3
5	February 2	Internet Technologies	
6	February 9	Internet Technologies	
7	February 16	Practical Midterm Exam In Lecture	
8	February 23	Spring Break	
9	March 2	Understanding the Web Written Midterm in Discussion	AE 2
10	March 9	Understanding the Web	AE 2
11	March 16	Web Services and Data Formats	
12	March 23	Searching and Organizing the Web	
13	March 30	Databases	
14	April 6	Security and Cryptography	
15	April 13	TBD	

Textbook

- Python Programming: An Introduction to Computer Science
- Author: John Zelle
- ISBN 1-887902-99-6
- http://www.fbeedle.com/99-6.html

PythonLearn Book Software Informatics Instructor Python About

New: Learning Google Application Engine www.appenginelearn.com

For the best effect to learn Python on your own, you should purchase the textbook and go through the materials in order. If you want to attempt the programming assignments make sure to install the appropriate software on your system. Installation instructions are provided under the "Software" tab.

This site should not be a substitute for a course you are taking - even if the course you are taking is using the same textbook. Each course and each instructor will take their own approach and pace through the materials.

Basic Python www.pythonlearn.com

- Writing Simple Programs (Chapter 2): Handout, Screencast, Assignment 1 - Getting Started, and Assignment Data
- Computing with Strings (Chapter 4): Handout, Screencast, and Assignment 2 - Reading through a file
- Decision Structures (Chapter 7): Handout, Sample Code, Audio, and Assignment 3 - Reading Through a File Again
- Computers and Programs (Chapter 1): Handout, (not recorded), Assignment 4 - Figuring out who has the most commits
- Loop Structures and Booleans (Chapter 8): Handout, Sample Code, Audio, Assignment 5 - Statistics with Spam

Building Cloud Applications with Google AppEngine

Creating Web Applications on Google Servers

This book is based on materials developed for www.appenginelearn.com as well as the courses SI502 and SI539.

This book is going into technical review in early 2009 and scheduled to be published by O'Reilly and Associates in mid-2009. If you find any problems or have any comments on the book, please send a note to csev@umich.edu. As an informal challenge, whomever finds the most typographical errors and/or technical errors in the book - I will give that person a free copy of the book when it comes out.

Preface

www.appenginelearn.com

The preface is a pithy bit of writing that arrempts to motivate the person skimming the book in the bookstore to actually take the book to the cashier and plunk down their money.

- Draft Preface Chapter

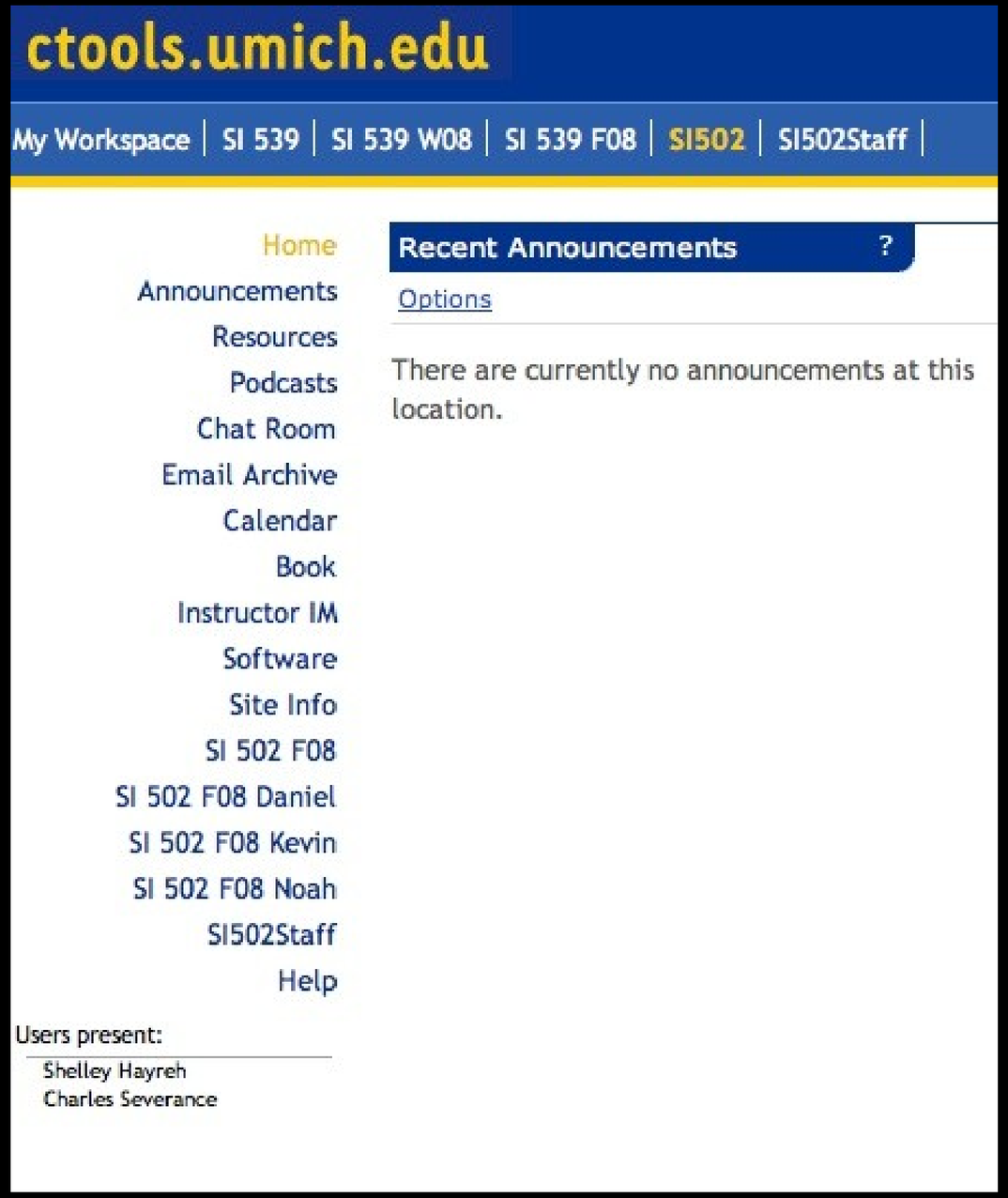
Chapter 1: Introducing the Google AppEngine

Later Materials

- Most of the class will use materials from the web
  - http://computer.howstuffworks.com/internet-versus-world-wide-web.htm
  - http://en.wikipedia.org/wiki/Traceroute
- Some material will be developed and put up on the web for this class specifically
- You are welcome to help find readings on an upcoming topic - please add to the course wiki

Course Site

- Two sites
  - Semi-public - auditors and helpers and lurkers
  - Discussion Section - Primarily grading
- Mailing list
  - Please use it like a conversation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SI 502 F08
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Help
Users present:
Shelley Hayreh
Charles Severance
Recent Announcements ?
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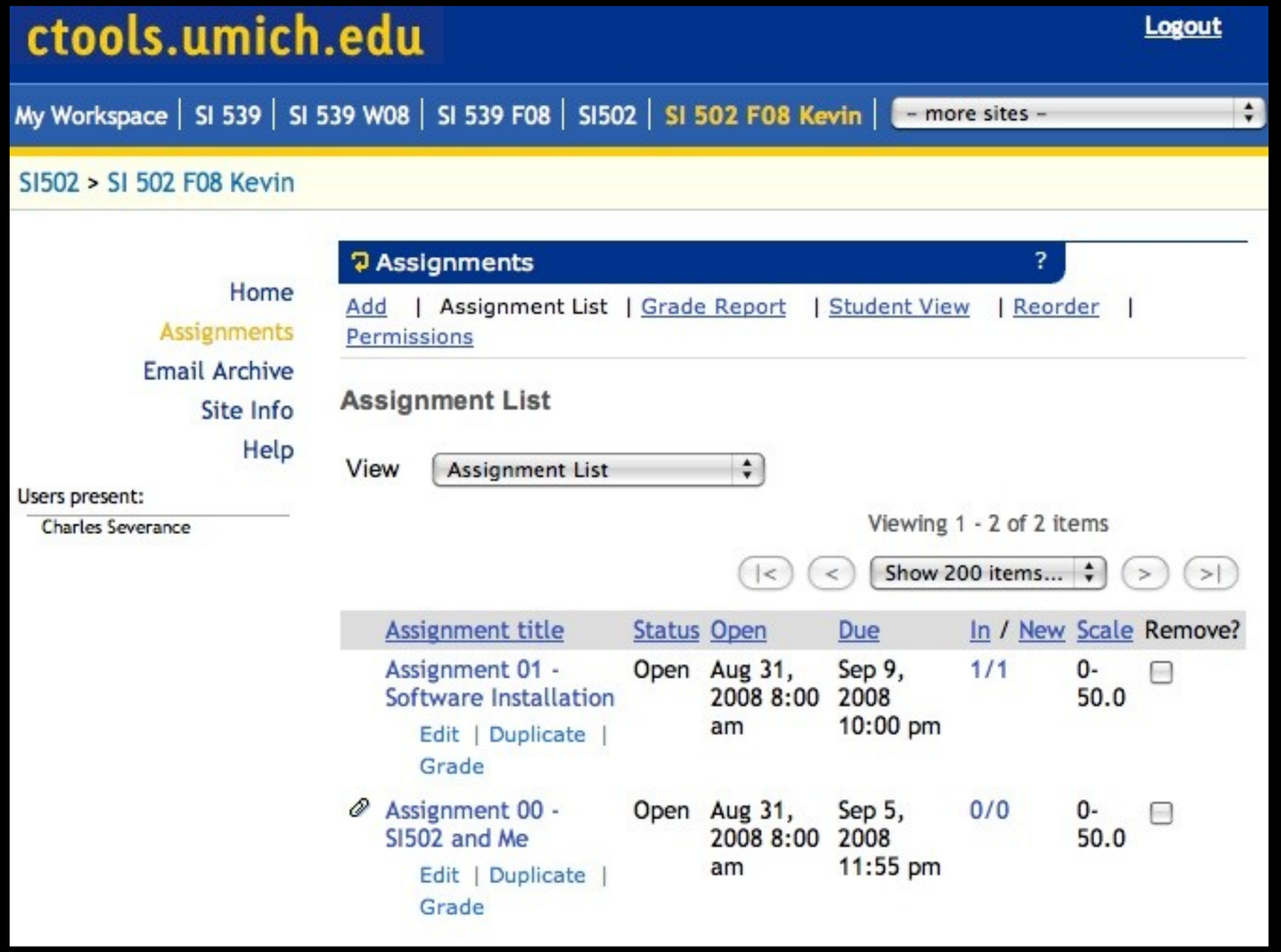
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Home
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Email Archive
Site Info
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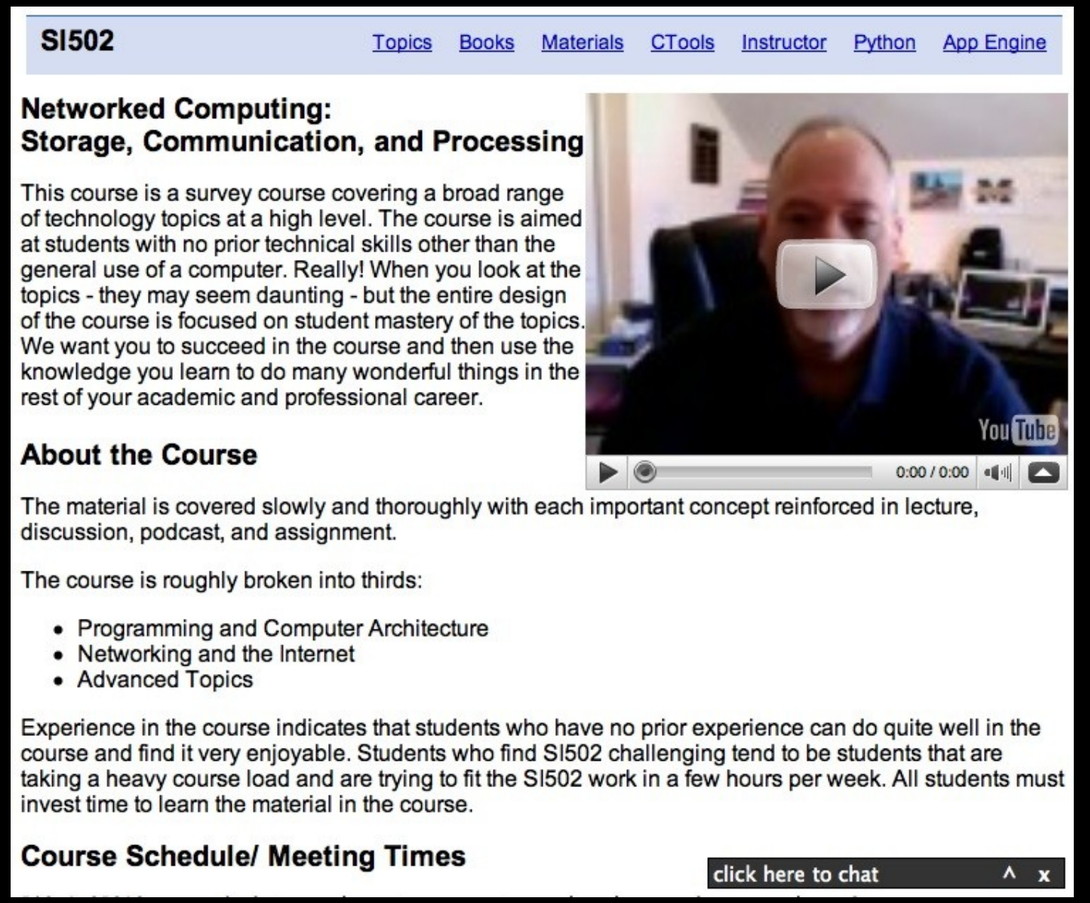
Charles Severance
Assignments ?
Add | Assignment List | Grade Report | Student View | Reorder | Permissions
Assignment List
View Assignment List
Viewing 1 - 2 of 2 items
Show 200 items...
Assignment title | Status | Open | Due | In / New | Scale | Remove?
Assignment 01 - Software Installation | Open | Aug 31, 2008 8:00 am | Sep 9, 2008 10:00 pm | 1/1 | 0-50.0
Edit | Duplicate | Grade
Assignment 00 - SI502 and Me | Open | Aug 31, 2008 8:00 am | Sep 5, 2008 11:55 pm | 0/0 | 0-50.0
Edit | Duplicate | Grade

Demo

www.si502.com

- A public site which has the course materials - aimed at the general public and Google users
- Experiment in open educational resources and content-based learning



Work Load

Discussion Assignments

- A combination of programming assignments, assessments, and essay questions
- Sometimes focused on building skills - sometimes focused on insuring the understanding of the material - sometimes focused on getting a discussion happening

Discussion Participation

- This is up to the discussion section instructor discretion
- Safe Approach
  - Come to discussion
  - Participate and help others
  - Do all the assignments get them in on time
  - Be a success in the course

Exams

- One practical exam
  - We hand out a simple programming problem - must finish and hand in during the session - open book, open notes, open laptop, can look at your old programming assignments, surf the web - just no help from other people.
- One midterm and one final exam - classic stuff on paper / online
  - Short answer, multiple choice, read code and tell what it does, very little code writing - two pages of notes

Grading

- Percentages
  - Assignments: 40% Exams: 50% Participation: 10%
- Straight scale from written syllabus

General Stuff

Do you have a Laptop?

- Life is simplest if you have a laptop - Bring to Discussion/Lab
- Please come see me if you don’t have a laptop - so I can work out a way for you to do the material in class

Course Podcasts

- I will be attempting to audio-record the course lectures and distributing them using MP3
- Look under the Handouts folder to view the documentation on subscribing to the podcasts - there are many choices.

- Do not count on this working - I try my best to make this work

Learning Objectives

- Computer Architecture
- Software Development
- Internet Technologies
- Web Technologies
- Service Oriented Architecture
- Database Modeling
- Web Search Technology
- Security of Information Systems

Learning Objectives

- Be comfortable in future courses with a technical focus
- Be able to participate as a team member in the analysis, design, development, and deployment of software and technology for an organization
- Be able to act as a facilitator between technical and non-technical staff within an organization or project.

Open Educational Resources

- Making UM course materials available to the public
- http://open.umich.edu/
- Digital Scribes - Prepare Materials
- https://open.umich.edu/projects/oer.php#dscribe

Helping Others

- Please ask for and/or give help
- In the beginning this is very foggy - hard to find the big picture
- But remember that your purpose is to learn
- Ask the mailing list - post code bits - it is OK

Source: http://en.wikipedia.org/wiki/Blind_Men_and_an_Elephant

Plagarism

At the University of Michigan and in professional settings generally, plagiarism is an extremely serious matter. All individual written submissions must be your own, original work, written entirely in your own words. You may incorporate excerpts from publications by other authors, but they must be clearly marked as quotations and properly attributed. You may obtain copy editing assistance, and you may discuss your ideas with others, but all substantive writing and ideas must be your own or else be explicitly attributed to another, using a citation sufficiently detailed for someone else to easily locate your source.

Plagarism Violations

All cases of plagiarism will be officially reported and dealt with according to Rackham policies. There will be no warnings, no second chances, no opportunity to rewrite; all plagiarism cases will be immediately reported to SI's Dean of Academic Affairs. Consequences can range from failing the assignment (a grade of zero) or failing the course to expulsion from the University. For additional information about plagiarism, see the "Academic and Professional Integrity Policy Statement" in the SI Master's Student Handbook, the Rackham pamphlet on Academic Integrity, and the Plagiarism document from the UM Libraries. If you have any doubts about whether you are using the words or ideas of others appropriately, please discuss them with the instructional staff of the course.

Plagarism (Simple Version)

- Main Rule - Be honest - acknowledge help you received
- If you are not the one who “creatively produced” some part of what you are turning in - make this clear
- “I was not doing it intentionally to cheat” - a bad excuse

Chuck's Classroom Rules

- Coming late or leaving early - OK
- Sleeping in class - OK
- Using a laptop - OK
- Eating or drinking - OK if the room permits it
- Stepping out to take a bio break - OK
- Asking questions at any time - OK
- Correcting me when I make a mistake - OK
- Skipping class - not very wise - but OK
- Doing things that distract other students or making difficult for us all to learn - Not OK
- Skipping class or sleeping in class and then expecting me to repeat entire lectures in office hours - Not OK
- Waiting to the last minute and asking me to review the whole semester in office hours - Not OK

Success in The Course

- Don’t wait until the last minute each week
- If you get stuck on something - move around - review some material - read the book - then come back
- When you look back - you will see that this was all *really* easy
- When you feel stuck - communicate - use the list - ask a friend
- I need to get feedback - a lot

Beware of Overconfidence

- Students who have some prior experience may be at some disadvantage because the class may seem to easy and/or too slow.
- Start to skip lectures and labs - just do the assignments by themselves.
- Once the course starts to speed up - they get lost quickly and find themselves a few weeks behind.
- Solution: Come to class and lecture and catch up on E-Mail with one ear on the material. Also help beginning students to make sure *you* understand.

No Experience Required

- I am committed to teaching the course to students with no prior experience in programming.
- I will alter the pace and/or order of the material as I see a need based on how well students are doing.
- Make sure to let me know on the mailing list, or by private mail or talking to be in lecture or lab how you think we are doing - or if you missed something.

Under Construction

- SI502 is an evolving and improving work-in-progress
- Please share feedback with us and give advice right away

Welcome to the course...

- Any questions?