

CS 150

Introduction to Computer Science 1

Professor: Chadd Williams

Chadd Williams

- <http://zeus.cs.pacificu.edu/chadd>
- chadd@pacificu.edu
- Office 202 Strain
- Office hours:
 - M 10:30 am – 11:30 am
 - T 11:00 am – noon
 - W 2:00 pm – 3:00 pm
 - Th 4:00 pm – 5:00 pm
 - or by appointment

What is CS150?

- CS150 is a programming course
- You will learn
 - Syntax (Grammar)
 - The mechanics of writing programs in C++
 - Design
 - Logical reasoning
 - How do I solve this problem with a program?
 - How do I break this into smaller, solvable problems?
- No previous programming skills needed!

http://zeus.cs.pacificu.edu/chadd

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[Chadd Williams Home](#)

[Research Interests](#)

Search the Web site!

[Calendar](#)

Contact Info

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Strain 202

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2043 College Way
Forest Grove
OR 97116

[Map it](#)

CS150

```
int &Tech::setId( int newId )  
id = ( newId >= 0 && newId <=10 )? newId: 0;  
return Introduction to Computer Science I
```

CS150 is a first course in computing and programming fundamentals. The goal of this course is to introduce you to problem solving through programming a computer. No previous computer experience of any type is required, but a deep interest in using one is. In this course, you will learn to program in C++. By the end of this course you should be able to write a program to do anything you want, given enough time and patience.

[Syllabus](#)

[\(Tentative\) Schedule](#)

[Survey](#)

[Coding Standards](#)

[Official Clock](#)

[Computer Science Messageboards](#)

8/25/08

Course Schedule

- The course schedule I have posted is tentative.
- The online schedule will be accurate and up to date.
- Contains:
 - handouts
 - assignments
 - labs

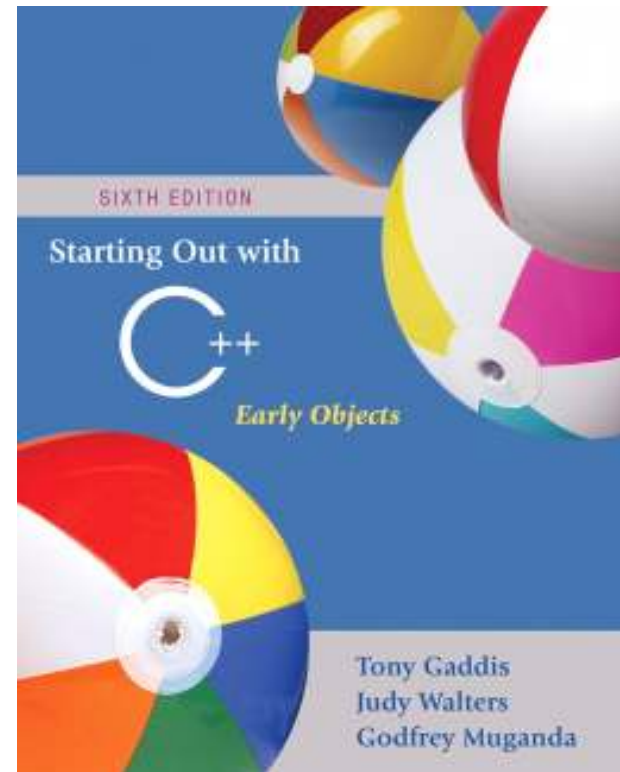
CS 150 Schedule

Date	Topic	Notes	Assignments
Aug 25	Welcome! Computer Basics		
Aug 27	My First C++ Program		
Aug 29	More C++ In Class Lab		
Sep 1	NO CLASS		
Sep 3			
Sep 5			
Sep 8			
Sep 10			
Sep 12			
Sep 15			
Sep 17			
Sep 19			
Sep 22			
Sep 24			
Sep 26			
Sep 29			
Oct 1			
Oct 3	NO CLASS		
Oct 6			
Oct 8			
Oct 10			
Oct 13			
Oct 15			
Oct 17			
Oct 20			
Oct 22			
Oct 24			

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Syllabus

- Book/Handouts
- Software
 - Visual Studio 2008
- Grades
- Assignments
 - GIFT
- Lab



Syllabus

- Working outside of class
 - 8 hours per week
 - 1 hour studying (not working on an assignment)
- Academic Dishonesty
 - cheating
 - penalties
- Grade Complaints
- Learning Support Services

Respect!

- Class starts promptly at **9:15 am!**
- You: Arrive on time!
- Me: End class on time!

- Turn off your electronic devices!

- Don't log on to the computers during lecture.

- Participate! Ask questions!

http://zeus.cs.pacificu.edu/chadd

The screenshot shows the Pacific University website for the CS150 course. The header includes the Pacific University logo (1849 OREGON) and navigation links for People Finder, Directory, and Calendar. A search bar is also present. The main content area features a red navigation bar with the path: Pacific Home > Arts & Sciences > Natural Sciences > Computer Science > Chadd Williams. The course title "CS150" is prominently displayed in red, with a code snippet below it: `setId(int newId)
id = (newId >= 0 && newId <=10)? newId: 0;
return Introduction to Computer Science I`. The course description states: "CS150 is a first course in computing and programming fundamentals. The goal of this course is to introduce you to problem solving through programming a computer. No previous computer experience of any type is required, but a deep interest in using one is. In this course, you will learn to program in C++. By the end of this course you should be able to write a program to do anything you want, given enough time and patience." Below the description are several links: [Syllabus](#), [\(Tentative\) Schedule](#), [Survey](#), [Coding Standards](#), [Official Clock](#), and [Computer Science Messageboards](#). The left sidebar contains navigation links for [Chadd Williams Home](#), [Research Interests](#), and "Search the Web site!" with a Google Custom Search box and buttons for "Search", "Calendar", and "Google Calendar". Contact information is provided: chadd@pacificu.edu, (503) 352-3041, Strain 202. The address is: 2043 College Way, Forest Grove, OR 97116. A [Map it](#) link is also present.

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Online Calendar

Prof Chadd Williams

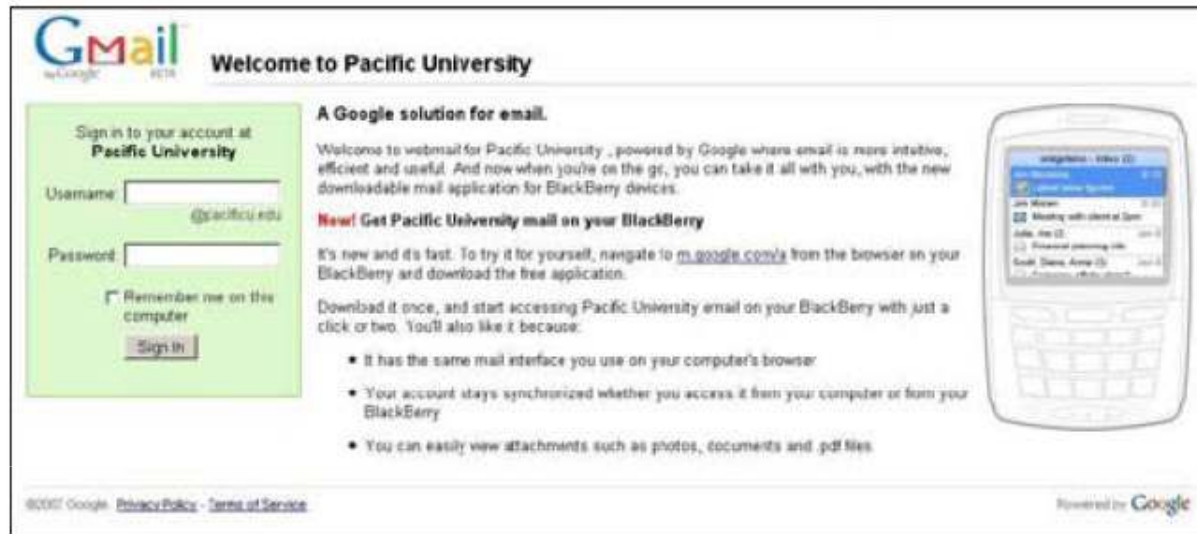
Today ◀ ▶ Aug 24 – 30 2008 ▾

Print Week Month Agenda ▾



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BoxerApps



Open a BoxerApps Account
Beginning September 2007, your email at Pacific is handled by Google.com. This partnership enables us to provide you with 2 GB of storage along with a calendar, personal Google start page and more - **all accessible from any computer 24/7/365!**

From the myAccount options page, just click the link to BoxerApps to create your account and get started.

***NOTE:** Your BoxerMail password may be different than your PUNet password. If you forget your Boxer-Mail password, log into myAccount and go to BoxerApps to request a new one.*

To access your BoxerApps account use any one of these links --

- <http://boxerstart.pacificu.edu> (Personalized Start Page)
- <http://boxermail.pacificu.edu> (Email)
- <http://boxercal.pacificu.edu> (Calendar)
- <http://boxerdocs.pacificu.edu> (Docs and Spreadsheets)

http://pacificu.edu/uis/generalinfo/tip_sheets.cfm



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The time now is Tue Aug 19, 2008 8:49 am

Pacific University Computer Science Forums Forum Index

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Forum	Topics	Posts	Last Post
Tools			
Linux Discuss your experiences with Linux, what works, what doesn't, how do I do that?	1	3	Wed Mar 21, 2007 11:47 pm Kyle Brickman →
Linux Build Tweaks Document all the Linux amd64 build tweaks here	9	11	Thu Dec 13, 2007 2:49 pm chadd →
Windows Build Tweaks Document all the Windows Vista amd64 build tweaks here	4	6	Mon Aug 11, 2008 1:07 pm chadd →
Windows Discuss your experiences with Windows, what works, what doesn't, how do I do that?	0	0	No Posts
Eclipse Discuss your experience with Eclipse!	3	9	Wed Oct 03, 2007 6:20 pm quantumparadigm →
Subversion Discuss your experience with Subversion!	1	1	Tue Jan 29, 2008 12:42 pm chadd →
Compilers/Make Discuss your experience with various compilers and the make utility	1	2	Sun Feb 11, 2007 9:25 pm chadd →
Other All the other software tools you need to use....	3	4	Wed Apr 09, 2008 11:04 am rvandi →

CS 150 Intro to Computer Science I

Announcements from the Professor Get the latest word on CS150, straight from the Professor's keyboard!	0	0	No Posts
Lecture Discussion Discuss the lectures and post questions for the Professor	0	0	No Posts
Programming Assignment Questions Ask the Professor about the Programming Assignments!	2	5	Sun Sep 23, 2007 2:50 pm chadd →

How to Succeed in CS150

- Don't miss class.
 - Take notes
- Try and read ahead
 - bring questions to class!
- Start programming assignments early
 - they take **much longer** than you think
- Do as much on your own as possible.



http://static.eway.com/catalog/1/ce05_127973_pfd.jpg

How to Succeed in CS150

- Read the assignments carefully and follow all directions
- See me **as soon as possible** about any questions!
- Don't forget that you are at a small school!
 - and you are paying for it!

Success!

- Start programming assignments early
 - they take **much longer** than you think
- Start programming assignments early
 - they take **much longer** than you think
- Start programming assignments early
 - they take **much longer** than you think

How to send an effective email

To: chadd@pacificu.edu

From: crei4242@pacificu.edu

Subject: CS150: quadratic formula

Hi Chadd,

I'm working on the programming assignment and I'm not sure how to calculate a square root in C++. Any hints?

Thanks,

Phil

Homework!

- Homework assignment #1
- Fill out the survey on the class web page
- Bring a printed copy **to my office**
- DUE: By Friday 5pm
- Be prepared to discuss your answers!



Introduction to Computers and Programming

Chapter 1

What is a Computer?

- What is your definition?

Question

- Can computers think?

Program

- Program
 - ??

- Programming language
 - A language used to write programs
 - Examples?

Programming

- Be very specific about what you want the computer to do
- It follows directions precisely

Programming Language

- Machine language
 - Zeroes and ones
 - CPU dependent
- High level language
 - Instructions look like everyday English
 - sort of
 - Each instruction can perform many machine language instructions

C++

- Based on the C programming language
- C++ is a high level programming language
- One of today's most popular programming languages
- Used extensively in industry

Hardware

- Physical components of a computer
 - Central Processing Unit (CPU)
 - Main Memory (RAM)
 - Secondary Storage
 - Input Devices
 - Output Devices
- Let's look at some of these in detail

Memory (RAM)

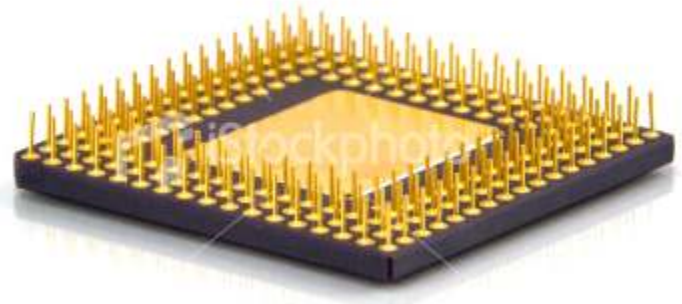
Address	Contents
0	-27.2
1	354
2	0.05
3	-26
4	H
5	400
6	JMP 001
7	ADD 003
8	STO 005
9	X
10	1005

- Memory cells are 1 byte in size
- Bytes are groups of 8 bits
- Bits are 0 or 1
- Each memory cell has unique address
- Contents can be data or instruction
- RAM is volatile



CPU

- A CPU
 - Fetches instructions
 - Performs instructions
 - Produces results
- A CPU consists of
 - Control unit: coordinates computer operations
 - ALU: performs arithmetic operations
 - integer unit
 - floating point unit



Summary

- Today we have looked at:
 - The history of computers
 - The hardware of computers
 - The software of computers
 - Concept of programming
- Next time we will:
 - Learn how to write our first C++ program
- Completed sections 1.1 - 1.3 from the book
 - Pages 1-12