

COSC 181 – Foundations of Computer Programming

Class 1

Syllabus

- Administrative Info
- Class Description/Objectives
 - More than C++
 - Non-majors, consider COSC 101
- Textbook
- Grading Policies
- Course Policies
- Grade Appeals Policy
- Academic Misconduct
- Attendance
- Disability
- Class Schedule

Your Expectations

- Your opportunity to let me know your expectations for the class.
 - Name
 - Where you're from
 - What your major is (if you've decided on one)
 - Why you are taking this class
 - (Try to avoid “To learn about C++”, dig a little deeper please)

My Expectations

- Covered the specifics of topics
- General goals:
 - Meet the standards of the college
 - Grades
 - Attendance
 - Upholding the Honor Code
 - Meet the standards of expectations
 - Businesses
 - Understanding of emerging and entrenched technology
 - Other Institutes of Higher Learning
 - GRE, other tests
 - Maximizing Opportunity

Getting Started

- Recommendation
 - Read the book (really a must)
 - “Tour of the Book”
- Base-level introduction
 - www.deitel.com/books/cpphttp6/
 - www.deitel.com
 - www.deitel.com/resourcecenters.html
- Logging-In to the Lab

Computers

- A device that can perform calculations a billion times faster than a human.
- Data ---[controlled by]---Programs
- Programs ---[written by]---Programmers
- Hardware vs. Software

6 Component Classes

- Input Unit
- Output Unit
- Memory Unit
- Arithmetic and logic unit (ALU)
- Central Processing Unit (CPU)
- Secondary Storage Unit

Operating System

- What the OS does.
- Multiprogramming (Multitasking)
 - Multi-user access (not to be confused with Windows' approach)

Internet and the World Wide Web

- Internet -> computers connected over a global network
- World Wide Web -> (the www you all know and love)
 - Inter-linked hypertext documents accessed over the internet

Internet Now and Tomorrow

- Web 2.0 is You
 - Community Generated Content
 - wikis
 - tagging
 - social networking
 - blogs
 - open-source (?)
 - Others?
 - Collective Intelligence
- Web 3.0
 - Semantic Web (web of meaning)
 - Tim Berners-Lee (is not Al Gore)
 - http://en.wikipedia.org/wiki/Semantic_Web

Programming

- Computers don't speak plain-English
 1. Machine Language (object code)
 - series of 1s and 0s that encode certain instructions – machine dependent
 2. Assembly Language
 - The low-level instructions listed in human readable form (must be translated to machine language) – very limited set of instructions
 3. High-level Language
 - Human readable code with large set of instructions, operators (+, -, *, =, etc), and logical statements (if this then that)
 - Depends on “compilers” to translate to machine language
 - Compilers require that the language be written in a formal way – syntax

C++

- C++ is one such high-level language
 - Derived from ANSI C (American National Standards Institute)
 - Like ANSI C, not machine specific
 - Provides:
 - more operators/commands
 - object-oriented capability
 - Objects – reusable code parts that perform well-defined tasks

C++ Continued

- Class and Functions
 - pieces of programs
 - For instance, an object is an “instance” of a class
- “Building Block” approach
 - C++ Standard Library
- The Children of C++
 - Java, Visual C++, C#

Reminders

- Purchase the book
- COSC 101 option
- Make sure you have your login
 - DARD B010 (back of the lab)
- DevC++ : (version 5)
 - <http://www.bloodshed.net/devcpp.html>