CIS 15 – Advanced Programming Concepts – Spring 2007

Administrivia
Instructor: Chipp Jansen
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Office: 4412 Ingersoll (Educational Robotics Lab)
Hours: Mondays AND Thursdays 2:00 pm to 3:pm

Virtual: **AIM username:** `chippbot`
Virtual Hours: Tuesdays 9pm to 11pm

Course Page: `http://www.sci.brooklyn.cuny.edu/~chipp/cis15/`

Lectures: Mondays and Thursdays, 12:15 pm to 1:30 pm, in room 232 NE

Computers: It will be helpful if you have access to a computer and the internet for this class. The Homeworks will be graded on the UNIX machines in the Computing Center (at the WEBB Building).

Readings

Required:
> **Starting out with C++: From Control Structrures through Objects**
> by Tony Gaddis, published by: Addison-Wesley **(5ᵗʰ Edition)**

Recommended:
> **Just Enough UNIX**
> by Paul Anderson, published by: McGraw Hill (5ᵗʰ Edition)
/OR/
> **Unix in a Netshell**
> by Arnold Robbins, published by: O'Reilly (4ᵗʰ Edition)

Handouts will be made available during class for extra relevant information.

Prerequisites: Computer and Information Science (CIS) 1.5

Grade Assessment:
> 30 points = 6 homeworks (5 points each)
> 40 points = 2 midterms (20 pts each)
> 30 points = 1 final (30 pts)
> 100 points total

Course Scope
- Unix Environment (fundamentals and scripting)
- Review of C++ pointers, structures, arrays and string operations
- Software Engineering Concepts: coding style, programming process, modularity
- C/C++ Preprocessor – macros, header files, conditional compilation
- I/O, working with files/streams, piping
- Recursion and QuickSort
- Pointers, Memory, Dynamic Storage Allocation, Strings
- Introduction to Classes and Objects
- Introduction to Data Structure: Stacks / Linked Lists
- Advanced Topics (if time): Network Programming, System Programming (fork())