Welcome to CS 310, Section B01

- Instructor: Yih (Ian) Huang
- Office: ST II, Rm 443
- E-mail: huangyih@cs.gmu.edu
- Office hours: Thursday 2:00pm — 4:00pm
- Course home page: http://www.cs.gmu.edu/~huangyih/310
- TA: Jian Cue
- We will use emails for communication; you must have a GMU account and check the account for course messages daily.

Course Goals

Advanced Data Structures

Advanced Programming Tools (under Unix)

Object-Oriented Program Design
Textbooks

- Required: Data Structures and Program Design in C++, Kruse and Ryba
- Reference: Unix for the Impatient, Abrahams and Larson
- Reference: C++ FAQs, Cline and Lomow

What You Should Already Know

- Abstract Data Types and C++ Classes
- Simple Sorting Algorithms
- Recursion
- Software Reuse with Templates
- Pointers and Dynamic Memory
- Basic data structures: stacks, queues, linked lists
Course Topics (Tentative)

- Review: pointers, linked lists, stacks, queues
- Advance Unix programming tools: gdb, make
- Trees: binary search trees, AVL trees, B-trees
- Advanced C++ features: inheritance, polymorphism, STL
- Heap and heap sort
- Recursive sorting algorithms: quick sort, merge sort
- Searching: binary search, hashing
- Graphs: adjacent matrix, adjacent lists, path algorithms

Grading

- Programming – 40%
  3 data structure oriented programming assignments
  individual efforts
- late submissions with 20% penalty within 48 hours of the
  deadline, not be accepted after 48 hours
- exception can be made under prearranged conditions
- Homework – 10%
  same late submission policy as projects
- Midterm – 20%, Final – 30%
About Summer Classes

- Summer classes are identical to classes in fall or spring.
- You should expect complete, semester-long workload squeezed in two months.
- A good rule-of-thumb is not to take more than two courses during summer.