CSC 382 Analysis of Algorithms

Syllabus

Meeting Information
- **Days, Times, & Room:** Tu Th 4:40 – 6:20 PM @ 3N 216
- **Homepage:** http://www.cs.csi.cuny.edu/~chen/382
- **Instructor:** Cong Chen (cong.chen@csi.cuny.edu)
- **Office Hours:** Th 2:00 PM – 4:00 PM @ 4N 206

Textbook
- Introduction to algorithms

Grading Policy
- **Attendance & Participation:** 1 point each
- **Assignments:** 5 or 10 points each
- **4 Exams:** 20 points each
- **Grades:**
  A: more than 89 points;
  B: 80 to 89 points;
  C: 70 to 79 points;
  D: 60 to 69 points;
  F: fewer than 60 points

Topics
- **Easy Problems (Warm-up):** Iteration & Recursion, Array, Binary Search
- **Data Structures (Reviews):** Vector (Dynamic Array), Linked List, Hash Tables, Binary Search Trees
  (Chapter 10, 11, 12)
  —— Exam I ——
- **Sorting and Order Statistics:** Complexity, Big-O Notation, Bubble/Insertion/Selection Sort, Divide and Conquer, Merge Sort, Quick Sort, Heap Sort (Priority queues), Counting Sort, Medians and Order (topK)
  (Chapter 3, 4, 5, 6, 7, 8, 9)
  —— Exam II (Midterm) ——
- **Dynamic Programming, Greedy algorithms**

- **Graph Theory:** Representation and applications
  
  (Chapter 15, 16, 22.1)
  
  —— Exam III ——

- **Graph Search:** DFS, BFS, Dijkstra, Connectivity, Topological Sort

- **Minimum Spanning Trees**

- **Bellman-Ford and Floyd-Warshall Algorithms**
  
  (Chapter 22, 23, 24, 25)
  
  —— Exam IV (Final) ——