CSC 382 Analysis of Algorithms
Syllabus

Meeting Information

- **Days, Times, & Room:** Tu Th 4:40 – 6:20 PM @ 3N 110
- **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)

- **Probabilistic Analysis:** (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) ——