Course Description: A detailed treatment of the design and analysis of data structures and algorithms

Instructor: Wen-Chi Hou

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Office Hours: 11:00 -12:00 AM, 2:00- 3:00 PM, Mon, Wed, Fri.
1:00 -3:00 PM Tue & Thu

TA: Soumya Chenna

Text Book:
“Data Structures, Algorithms, and Applications in Java”
by Sahni, 2005, Silicon Press.

Tentative Grading:
3 exams (including the final exam): 65%;
Final (or the 3rd) Exam Date: 10:15AM, 5/13/2015

6-7 Labs/Homework: 30 – 35% No late submission will be accepted

Topics Covered:

1. Performance Analysis: Chapters 2, 3
   Space and time complexities; asymptotic notation: O, Θ, Ω

2. Data Structures: Chapters 11, 12, 13, 14, 15, 16.
   Heap, trees, and hash tables: priority queue, heap sort, tournament tree, B-tree, etc.

3. Algorithms: Chapters 17, 18, 19, 20
   Graphs, greedy method, divide-and-conquer, dynamic programming: knapsack problem, shortest paths, minimum-cost spanning tree, merge sort, quick sort, etc.