CSE382 – Algorithms and Data Structures

1. Introduction: proofs, recursion, complexity, Arrays, programming in C# and C++
2. Math structures: LVS, Algebra, vectors, matrices
3. Abstract Data Types: slist, dlist, queue, dequeue, stack, tree, graph
4. Sorting and Searching
5. Balanced trees: AVL and Red-Black
6. Associative containers: sets, maps
7. Hashtables
8. Optimization: steepest descent, Newton-Raphson, conjugate gradient
9. Hard problems
10. Help completing projects