CS535-001 Data Structures and Algorithms
Coverage for Final Exams

- Different sorting algorithms: merge-sort, quick-sort, bucket-sort, radix-sort.
  Aside from knowing how each sorting algorithm works, their strengths and weaknesses, go over your homeworks and text book to review their added benefits; i.e., merge-sort can count inversions, etc.

- A lower bound on comparison-based sorting.

- Selection.

- The set and partition abstract data type.
  Know their different implementations and how they are used for min-spanning tree algorithms.

- Different data structures for graphs.
  Review your notes and homeworks as well to understand how graphs can be used to model problems.

- Graph Traversals: BFS and DFS.
  Again, be able to compare and contrast these two types of traversals. Know their applications.

- Algorithms on directed graphs.

- Shortest path algorithms (for DAG’s, Dijkstra and Bellman-Ford).

- Minimum spanning tree algorithms.

  For all three sets of algorithms, know how they work and how they can be modified to solve related problems.