Course Objectives:

- Develop more skills in individual Java programming
- Work with common data structures used in software development by coding their low-level implementation
  - Arrays, ArrayLists,
  - LinkedLists (Singular, Doubly, Circular)
  - Stacks, Queues, Deques, Priority Queues
  - Various Trees: Binary, Binary Search, AVL, Splay, Heaps, 2-4 Trees, etc…
  - Hash Maps/Tables; External Chaining and Probing
  - Graphs and their algorithms
- Become familiar with common algorithms on these data structures
  - Sorting Algorithms: Bubble, Insertion, Selection, Cocktail Shaker, Merge, Quick, Radix etc...
  - Pattern Matching Algorithms: Brute force, Boyer-Moore, KMP, Rabin-Karp
  - Graph Algorithms: Dijkstra's Shortest Path and multiple MSTs
  - Dynamic Programming Algorithms
- Work with Big-O notation, allowing good choices about the appropriate data structure and algorithm to use for a particular programming problem
- Improve one's ability to test and debug programs

Lecture Attendance is required, Recitation Attendance is highly encouraged, and it is assumed you are attending. You are responsible for any and all announcements made during lecture whether you are present or not.

All students are required to attend the lecture that they are registered in for the duration of the semester. No switching sections will be allowed.

"Sitting in" is against GT Policy, and is explicitly not allowed. We do not violate Institute policy. You are not allowed to attend without being registered. Problems with this will be turned over to the Dean of Students and/or GT Police.

Conduct Policy:
It is expected that everyone will follow the Student-Faculty Expectations document, and the Student Code of Conduct. The professor expects a positive, respectful, and engaged academic environment inside the classroom, outside the classroom, in all electronic communications, on all file submissions, and on any document submitted throughout the duration of the course. No inappropriate language is to be used, and any assignment, deemed by the professor, to contain inappropriate or offensive language will get a zero. You are to use professionalism in your work. Violations of this conduct policy will be turned over to the Office of Student Integrity for misconduct.