CPE360: Course Info

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Hours: Monday 2.00 – 4.00 pm (or by appointment)

I. Getting in touch

Email is probably the best form of communication. I do get a lot of emails, but I am reasonably prompt in replying to them all. Besides online communication, I will also be happy to see you during or outside my office hours, just send me an email!

My office is **Burchard 204**, and my office hours are **Monday, 2.00 pm – 4.00 pm**.

II. Grading Policy

Grading is loosely comprised of homeworks (55%), midterms (40%), and class participation (5%). I use a +/- grading scheme.

III. Submissions

Homeworks, take-homes, and projects are typically submitted online on Canvas. A portal for submissions will be made available at the appropriate time.

IV. Course Syllabus

- Analysis of Algorithms: Time complexity, Space (storage) complexity, Big-O, small-O, and theta notations
- Solving problems using programming: Functions (modular programming), Object oriented programming (classes/objects), Recursion, Analyzing algorithms involving recursive forms using telescoping and substitution.
- Simple (linear) Data Structures: Linked lists, Doubly linked lists, Stacks (push, pop, display), and Queues (enqueue, dequeue, display).
- Trees (non-linear data structures): Tree definitions and properties, Tree traversals (pre-, post-, in-order), Tree operations (insert, delete), Expression trees (Prefix, Infix, Postfix).
- Binary Search Trees: Lookup, Insert, Delete and Traversals.
- Priority Queues (PQ), PQ using linked lists, Heap as a PQ.
- Advanced Data Structures (time permitting): Self balancing trees, including Red Black Trees (creation) and AVL trees.
- Sorting: Bubble sort, Quick-sort, Merge-sort, Insertion-sort, and Heap-sort.
- Hash Tables: Hashing functions, Lookup using Hash Tables, Separate chaining, Linear probing, and Quadratic probing.