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COURSE SUMMARY: Performance analysis considerations in design of algorithms and data structures; Order of magnitude analysis, recurrence relations, probabilistic analysis, divide and conquer; searching, sorting and graph processing algorithms.

PREREQUISITE: CSE 560 or 668 or ECE 668; STAT 427; and MATH 566


COURSE NOTES (required): Order from SBX (or directly from www.zippublishing.com)

CARMEN: [https://carmen.osu.edu](https://carmen.osu.edu)

SEQUENCE OF TOPICS (tentative):
1. Analyzing algorithms (CLRS, Chapter 1).
2. Asymptotic notation (CLRS, Chapter 3).
3. Insertion sort (CLRS, Sections 2.1, 2.2).
4. Recurrence relations (CLRS, Sections 4.1, 4.2).
5. Merge Sort (CLRS, Section 2.3).
7. Graphs and graph algorithms (CLRS, Chapter 22).
8. Minimum spanning trees (CLRS, Chapter 23).
9. Shortest paths (CLRS, Section 24.3).
10. Probabilistic analysis (CLRS, Chapter 5).
11. Quicksort (CLRS, Chapter 7).
12. Median find (CLRS, Chapter 9).
13. Hashing (CLRS, Chapter 11).

(over)
GRADING: HW 25%, Midterm 35%, Final 40%.
(or Midterm 20% and Final 55%, whichever is greater.)

Homeworks may include programming assignments.

Students are expected to attend class regularly. In the event that a student must miss a class, the student is responsible for finding out what assignments were made, what due dates were announced, and what material was covered. Late homework will NOT receive credit.