

A course on algorithms and data-structures. Methods for the analysis of algorithms are introduced, algorithms for sorting, searching, and selection, and data structures that support fast (hash-tables) and efficient information retrieval are presented (heaps and priority queues with applications to data compression, binary search trees, red-black trees). Greedy algorithms and dynamic programming-based techniques are introduced in the context of graph algorithms. Graph algorithms for traversals (depth-first, breadth-first), shortest-path problems, and spanning tree algorithms are also introduced. Introduction to NP-completeness.

CONTACT INFORMATION

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OFFICE HOURS: Mon 4-6pm, Tue 2:30-3:50pm
OFFICE HOURS: By appointment some other time on Mon,Tue,Wed
ASSISTANT: TBA on course web-page
CLASS HOURS: Tue 6-9:05pm, Cull LT III
COURSE WEB PAGE: <http://www.cs.njit.edu/~alexg/courses/cis435/index.html>

After the first class go to the course Web page, download this document and print it. Compare it to the hard copy handed out in class. If there are any differences, you may need to adjust your printer. Report problems to the e-mail address above.

COURSE INFORMATION

Prerequisites CIS 114, Math 226, and Math 333.
Textbook T.C.Cormen, C.E.Leiserson, R.L.Rivest, and C. Stein. "Introduction to Algorithms", second edition, McGraw-Hill. *All references to the textbook in class will be to this second edition briefly noted as CLRS.*
Grading scheme: 1000 points = Ex1 (100) + Ex2 (350) + Ex3 (350) + 4/5/6 HWork (200).
Exams Exam1, closed everything, **Feb 17**, 45mins, 100 points. Exam2, open textbook (you may also bring a clean copy of the web-available course cheatsheet), **March 9**, 1h45mins, 350 points. Exam3 (a.k.a Final), cumulative (all course material in it), open textbook (you may also bring a clean copy of Subject 11 on binary search trees), **May 11**, 2h15mins, 350 points. If you can't make it on the final, drop the course; if you have made travel arrangements already drop them.
HW0-6 HW0 is an evaluation homework. You may receive from -50 (negative) points to 0 points. Six Web-posted homeworks will be handed out (HW1-HW6) worth 50 points each. Besides HW0, the best 4 of 6 homeworks will count for 150 points. Students can only submit 5 homeworks among HW1-HW6; that's the 4/5/6 rule. If you submit a sixth, it won't be graded.
Extra Work If you enjoy programming, you can use extra programming points to fill your 200 homework points. You can not use homework points for programming points.
CIS435H Students who may take CIS435H are required to collect at least 90 points of programming problems in addition to the prior requirements. For every point not done, 2 points will be subtracted from the final grade.
Due Dates Written homeworks are due by the end of class on **the Tuesday** they are due. Programs **MUST be received by email by midnight the same day**. Late homeworks are not accepted; the best four of six count and only five can be submitted and will be graded (4/5/6 rule).