

# COT-4400-1

## Analysis of Algorithms

### Syllabus, Fall 2001

When: Tu-Th 9:30 -10:45

Where: CPR 454

Instructor: Larry Hall (hall@csee.usf.edu)

Office: ENB 333

Office Hrs. Tu,W,Th 1-2 or by appointment.

Phone: 974-4195 or 974-3652 (Dept.)

Class web page: <http://www.csee.usf.edu/~hall/algs/>

Grading: There will be two midterms. They will each be worth 30% of the final grade. There will be one final which will be 35% of the final grade. Homework, quizzes and class participation will make up the other 5% of the final grade.

General: The textbook is: *Introduction to Algorithms by Thomas Cormen, Charles Leiserson, Ronald Rivest and Clifford Stein, Second edition*, published by McGraw-Hill. Each topic should be read about in the book, before the lecture which pertains to it. **No late work is accepted!!**

#### Topics:

Week1: Chpts. 1,2, Appendix A,C	Introduction, Math review and Insertion sort
Week2: Chpts. 2, 3	Mergesort, Asymptotic notations
Week3: Chpts. 3, 4.1-2	Asymptotic notations, recurrences
Week4: Chpts. 4.3,6	Recurrences, Heap-sort
Week5: Chpt. 7,	Quicksort
Week6: Chpt. 8, Test 1	Counting Sort, Radix Sort
Week7: Chpts. 10.1, 12	Stacks and Queues, Binary Trees
Week8: Chpts. 12,22	Trees and Graphs
Week9: Chpts. 23,24	Minimum Spanning trees, and weighted graphs
Week10: Chpts. 24,25.1	More on graphs, shortest paths.
Week11: Chpt. 28, Review	Matrix operations
Week12: Test 2, Chpt. 30	Polynomials and Fast Fourier Transforms
Week13: Chpts. 15, 16.1-2	Dynamic Programming, Greedy algorithms
Week14: Chpt. 34	NP-complete problems
Week 15: Chpt. 34	NP-complete problems, review
Cumulative FINAL: Thursday Dec. 13. 10:30a.m.-12:30p.m.	