COT 5405, Summer 2006
S. Lang **Course Syllabus** May 16, 2006

Instructor	Dr. S. Lang 203 CSB, (407) 823-2474 lang@cs.ucf.edu	**Office Hours:** Tuesday: 4 – 5:45 pm Thursday: 4 – 5:45 pm
Teaching Assistant	Sherri Sparks 203 CC-I, (407) 882-0154 ssparks@cs.ucf.edu	**Office Hours:** Monday: 2 – 4:30 pm Wednesday: 2 – 4:30 pm

Text: (Optional) Cormen, Leiserson, Rivest, and Stein, Introduction to Algorithms, 2nd ed., Chapters 1 – 7, 9, 15 – 17, 19, 21, 22 – 25, and 34, of the Text.

Library Reserved References:

[1] Brassard and Bratley, Fundamentals of Algorithmics.
[2] Graham et al., Concrete Mathematics.
[3] Horowitz & Sahni, Fundamentals of Algorithms.
[4] Parberry, Problems on Algorithms.
[5] Rawlins, Compared to What?

Prerequisites: Two semesters of Calculus (differential and integral); discrete computational structures including induction, sets, relations/functions, trees, graphs, counting techniques, discrete probability, recurrence equations, finite automata and Turing machines

Web Resources:

- Course website: http://www.cs.ucf.edu/courses/cot5405/summer2006 and UCF WebCT
- Useful background materials: My lecture notes on Discrete Structures and on Computer Science III (Data Structures); Dr. Workman's notes on Discrete Computational Structures
- Algorithms and Complexity: Notes by Professor H. S. Wilf, University of Pennsylvania
- Algorithms and Data Structures: Notes by Professor R. Sedgewick, Princeton University
- Dictionary of Algorithms and Data Structures: A website maintained at NIST

Topics by Lectures (and by Cormen et al.'s text chapters):

- Mathematical Preliminaries (Chapters 1 – 4, 3 lectures)
- Computational Complexity (Chapter 34, 3 lectures)
- Searching, Sorting, Order Statistics (Chapters 5 – 7, 9, 3 lectures)
- B-trees, Binomial Heaps, Set Structures (Chapters 17 – 19, 21, 3 lectures)
- Greedy Algorithms (Chapters 16, 22 – 24, 3 lectures)
- Dynamic Programming (Chapters 15, 25, 3 lectures)
- Backtracking, Branch-and-Bound (2 lectures)

Grading Policy:

- Homework (25%) – proofs, calculations, and designing algorithms in a pseudocode (**Note:** Homework reflects individual work and is due in the beginning of the class in hardcopies typed up or written in legible form; no email or late submissions accepted unless prior arrangements are made)
- Test #1 (35%) – Tuesday, June 22, 2006, 6 – 7:50 pm in class.
- Test #2 (40%) – Thursday, August 3, 2006, 6 – 7:50 pm in class.

Note: Grades are based on the straight percentage scale (i.e., A: 90% or above; B: 80 – 89%; etc.); plus/minus grades will be used rarely if at all.

Academic Integrity and Student Conduct: Please read and understand student rights and responsibilities including conduct rules clearly stated in UCF's golden rules, at http://www.goldenrule.sdes.ucf.edu/2e_Rules.html.