

**COT 5405, Summer 2005****S. Lang****Course Syllabus**May 13, 2005; **June 7 (Test #1 date revised)**

<b>Instructor</b>	Dr. S. Lang 203 CSB, (407) 823-2474 <a href="mailto:lang@cs.ucf.edu">lang@cs.ucf.edu</a>	<b>Office Hours:</b> Tuesday: 4 – 5:30 pm Thursday: 4 – 5:30 pm
<b>Teaching Assistant</b>	Shuxin (Susan) Li 111 CSB, (407) 823-2524 <a href="mailto:sli@cs.ucf.edu">sli@cs.ucf.edu</a>	<b>Office Hours:</b> Monday: 2 – 4 pm Friday: 2 – 4 pm

**Text:** (Optional) Fundamentals of Algorithmics, by Brassard and Bratley, Prentice-Hall, 1996.**Topics:** Chapters 1 – 9, 10, and 12, of the Text.**Library Reserved References:**

- [1] Cormen, Leiserson, Rivest, and Stein, Introduction to Algorithms, 2<sup>nd</sup> ed.
- [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 (differential and integral) Calculus; discrete computational structures including induction, sets, trees, graphs, counting techniques, discrete probability, recurrence equations, finite automata and Turing machines**Web Resources:**

- Course website: <http://www.cs.ucf.edu/courses/cot5405/summer2005>
- 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 Brassard and Bratley's text chapters):**

- Mathematical Preliminaries (Chapters 1 – 4, 3 lectures)
- Computational Complexity (Chapter 12, 3 lectures)
- Searching and Sorting (Chapter 7, 3 lectures)
- Heaps, Set Structures (Chapter 5, 3 lectures)
- Greedy Algorithms (Chapter 6, 3 lectures)
- Dynamic Programming (Chapter 8, 3 lectures)
- Backtracking, Branch-and-Bound (Chapter 9, 3 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 21 (revised date)**, 2005, 6 – 7:50 pm in class.
- Test #2 (40%) – Thursday, August 4, 2005, 6 – 7:50 pm in class.