Course Syllabus

**Catalog Course Description:** A review of mathematical techniques for analysis of computer algorithms, techniques for design of efficient algorithms, description and analysis of both well-established and recently developed algorithms.

**Topics:** Asymptotic notation, recurrences, lower bounds for worst case and average case, dynamic programming, greedy algorithms, searching algorithms, sorting algorithms, graph algorithms, and 2 or 3 more topics selected from the rest of the textbook.

**Textbook:**

**Exams and Grades:**
There will be two tests, written assignments, one project and a presentation. The project will involve programming some algorithms and doing some analysis on their performance. For the presentation, the student will present an algorithm research paper from a journal or conference, preferably recent.

- Test 1 20%
- Test 2 20%
- Presentation 20%
- Assignments 20%
- Programming project 20%

**Standards of Conduct:**
Students are expected to conduct themselves in a professional and courteous manner, as prescribed by the Standards of Conduct. Students may discuss work assignments and programming exercises in a general way with other students, but the solutions must be done independently. Similarly, groups may discuss group project assignments with other groups, but the solutions must be done by the group itself. Graded work should be unmistakably your own. You may not transcribe or copy a solution taken from another person,
book, or other source, e.g., a web page. Professors are required to – and will – report academic dishonesty and any other violation of the Standards of Conduct to the Dean of Students.

**Faculty Information:**

Professor: Luc Longpré  
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Phone: 747-6804  
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Office Hours: TR 1:30–2:30. Also, you can make an appointment, instructions at faculty.utep.edu/longpre.

**Material:**  
Chapters 1-9, 12, 15, 16, 22, 23 will be covered. In addition, we will cover 1, 2 or 3 other chapters, depending on remaining time.