

Syllabus for CSCE 3313  
**Algorithms**  
The University of Arkansas  
Fall 2013

**Instructor:** Gordon Beavers  
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**Office Hours:** TR 10:00 - 12:00  
**Office:** JBHT 504

**Grader:** Kanat Bektemirov  
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**Office Hours::** MW 9:30 - 10:40; T 12:15 - 1:45  
**Office:** JBHT 434

**Class Time:** MWF 8:35 - 9:25  
**Class Room:** SCEN 407

**Textbook:** **Introduction to Algorithms**, Third Edition  
**Authors:** Cormen, Leiserson, Rivest, and Stein  
**Publishers:** MIT Press 2009

**Catalog Course Description:**

**CSCE 3313** Provides an introduction to formal techniques for analyzing the complexity of algorithms. The course surveys important classes of algorithms used in computer science and engineering. Prerequisite: CSCE 2014 and MATH 2603.

**Evaluation:**

Quizzes	10%	weekly
Programming Assignments	30%	
Mid-Term Exam 1	15%	Wednesday 2 October
Mid-term Exam 2	15%	Friday 15 November
Final Exam	30%	Wednesday 16 December 8:00

**Course Content:**

We shall attempt to cover the following material during this semester.

Getting Started (Chapter 2)  
Growth of Functions (Chapter 3)  
Recurrences (Chapter 4)  
Heapsort (Chapter 6)  
Quicksort (Chapter 7)  
Sorting in Linear Time (Chapter 8)  
Hash Tables (Chapter 11)

Binary Search Trees (Chapter 12) review  
Red-Black Trees (Chapter 13)  
Augmenting Data Structures (Chapter 14)  
**Midterm Examination** Friday 19 October  
Dynamic Programming (Chapter 15)  
Greedy Algorithms (Chapter 16)  
Elementary Graph Algorithms (Chapter 22)  
Minimum Spanning Trees (Chapter 23)  
Single-Source Shortest Paths (Chapter 24)  
All-Pairs Shortest Paths (Chapter 25)  
Maximum Flow (Chapter 26)  
String Matching (Chapter 32)  
NP Completeness (Chapter 34)  
**Final Examination** Wednesday 12 December

**Suggestions:** Since we have an ambitious schedule, you will have to assume considerable responsibility for the mastery of this material. Complete understanding will normally come only with considerable study. Students should expect to spend three hours of individual study for each hour of lecture. Please look over the material before class so that you may ask relevant questions. Should you find that you still have questions after class, or you find that there is a problem you cannot solve on your own, please submit the question via email or submit it during a following class. Class participation will be taken into account in determining grades for borderline cases. Tests will be open book, but not open notes.

**Class Attendance:** You are responsible for all material covered in class. If you must miss a class, it is your responsibility to get the notes, assignments, etc. from someone in class.

**Academic Honesty:** The policy specified in the *University of Arkansas Undergraduate Studies Catalog, Academic Regulations, Academic Dishonesty* will be followed.

**ADA Statement:** If any member of the class has a documented disability and needs special accommodations, the instructor will work with the student to provide reasonable accommodation to ensure the student a fair opportunity to perform in this class. Please advise the instructor of the disability and the desired accommodations within the first week of the semester.

**Inclement Weather:** If the university is officially closed, class will not be held. You will be expected to make every effort to attend class, but not if you don't feel that you can get to campus safely. Assignment due dates will be postponed in case of inclement weather.