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## COMP 172-01, Discrete Structures for Computer Science, Fall 2007

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# Rhodes College

## Discrete Structures for Computer Science COMP 172

Syllabus  
Fall 2007

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### Basic Info:

- Monday, Wednesday, Friday 10:00 am - 10:50 am
- Kennedy Hall 207

### Instructor:

- Betsy Williams
  - Office: Olendorf 420
  - Office Phone: 901.843.3791
  - Email: [williamsb@rhodes.edu](mailto:williamsb@rhodes.edu)

### Office Hours:

- TBA (please see course webpage for updates)
- By appointment

### Book:

- The course textbook is K. Rosen. "Discrete Mathematics and Its Applications", 6<sup>th</sup> ed.

### Course webpage:

- <http://www.rhodes.edu/mathcs/faculty/williams/Fall2007/cs172>

### Course Objectives:

At end of this course you should be able to:

- Use logical notation to define and reason about fundamental mathematical concepts such as sets, relations, functions, and integers.
- Evaluate elementary mathematical arguments.
- Synthesize induction hypotheses and simple induction proofs.
- Calculate numbers of possible outcomes of elementary combinatorial processes such as permutations and combinations.
- Analyze the running time of non-recursive algorithms with loops by means of counting.
- Analyze the running time of divide and conquer recursive algorithms by means of recurrence equations.
- Use trees and graphs to formulate computational problems.

### Workload:

- It is important to stay current with the material. Each week there will either be a problem set or exam. You should be prepared to devote regular weekly hours to this course.
- You are encouraged to work in groups on non-graded "recommended" assignments and in preparation for exams.

### Problem Sets:

- There are twelve (12) weekly problem sets. Solutions to the problem sets will be posted two days after the due date.
- These problem sets will generally be due on Friday unless otherwise noted. They will be handed in at the beginning of class.
- **LATE** problem sets will not receive credit. (If a genuine emergency situation prevents you from turning it, please see me and we will work something out.)

- You are allowed to use the course textbook and the course notes for these problems sets. The use of any other material to solve the problem sets is forbidden.
- Collaboration: You are expected to work individually on assigned problem sets. If group work is allowed, it will be mentioned explicitly in the assignment.
- Due dates:
  - Wednesday, Aug. 29
  - Friday, Sept. 7
  - Friday, Sept. 14
  - Friday, Sept. 21
  - Friday, Sept. 28
  - Wednesday, Oct. 10
  - Friday, Oct. 19
  - Friday, Oct. 26
  - Friday, Nov. 2
  - Friday, Nov. 16
  - Monday, Nov. 26
  - Monday, Dec. 3

#### **Recommended Exercises:**

- I will suggest exercises from the book that you may find useful. They will not be turned in for a grade, and you are encouraged to work with your classmates on these exercises.

#### **Exams:**

- There will be two prelims and one final exam:
  - Prelim 1: Wednesday, Oct. 3, in class.
  - Prelim 2: Friday, Nov. 9, in class.
  - Final Exam: Saturday, Dec. 8, 8:30 am.
- These exams will be closed-notes, closed-book, and closed-neighbor. Exam work will represent your own individual effort.
- Make-up exams will only be given in extreme circumstances.

#### **Grade Breakdown:**

- 50 % Problem sets
- 15 % Prelim 1
- 15 % Prelim 2
- 20 % Final

#### **Grade Assignments:**

- Grading is based on the below scale:
  - **A** : [93%, 100%]
  - **A-** : [90%, 93%]
  - **B+** : [87%, 90%]
  - **B** : [83%, 87%]
  - **B-** : [80%, 83%]
  - **C+** : [77%, 80%]
  - **C** : [73%, 77%]
  - **C-** : [70%, 73%]
  - **D** : [65%, 70%]
  - **D-** : [60%, 65%]
  - **F** : [ 0%, 60%]
- For borderline cases, I may take into account participation, and/or attendance, and improvement during the semester.

#### **Attendance:**

- Attendance is expected for each class as material that is not covered in the book may appear in class. If your attendance deteriorates you will be referred to the dean and

asked to drop the course. Attendance and participation may also be considered when assigning a final grade.

**Special Accommodation:**

- If you are in need of special accommodations, please register with the Office of Student Disability Services (<http://www.rhodes.edu/disability>) as soon as possible so that all necessary arrangements can be made.

**Scholastic Behavior**

- Plagiarism, cheating, and similar anti-intellectual behavior are serious violations of academic ethics and will be correspondingly penalized. If you are concerned about a possible violation of this kind, please talk with me. I understand the pressure that students may experience while at Rhodes, and I will try to help as best as we can.

**Important Dates**

- Drop Add Ends: 8/28/2007
- Extended Drop Period ends: 9/12/2007
- Pass Fail Period Ends: 9/12/2007
- Withdrawal Period Ends: 10/26/2007